

THE VISIT OF THE TENANT-FARMER DELEGATES TO CANADA IN 1890.

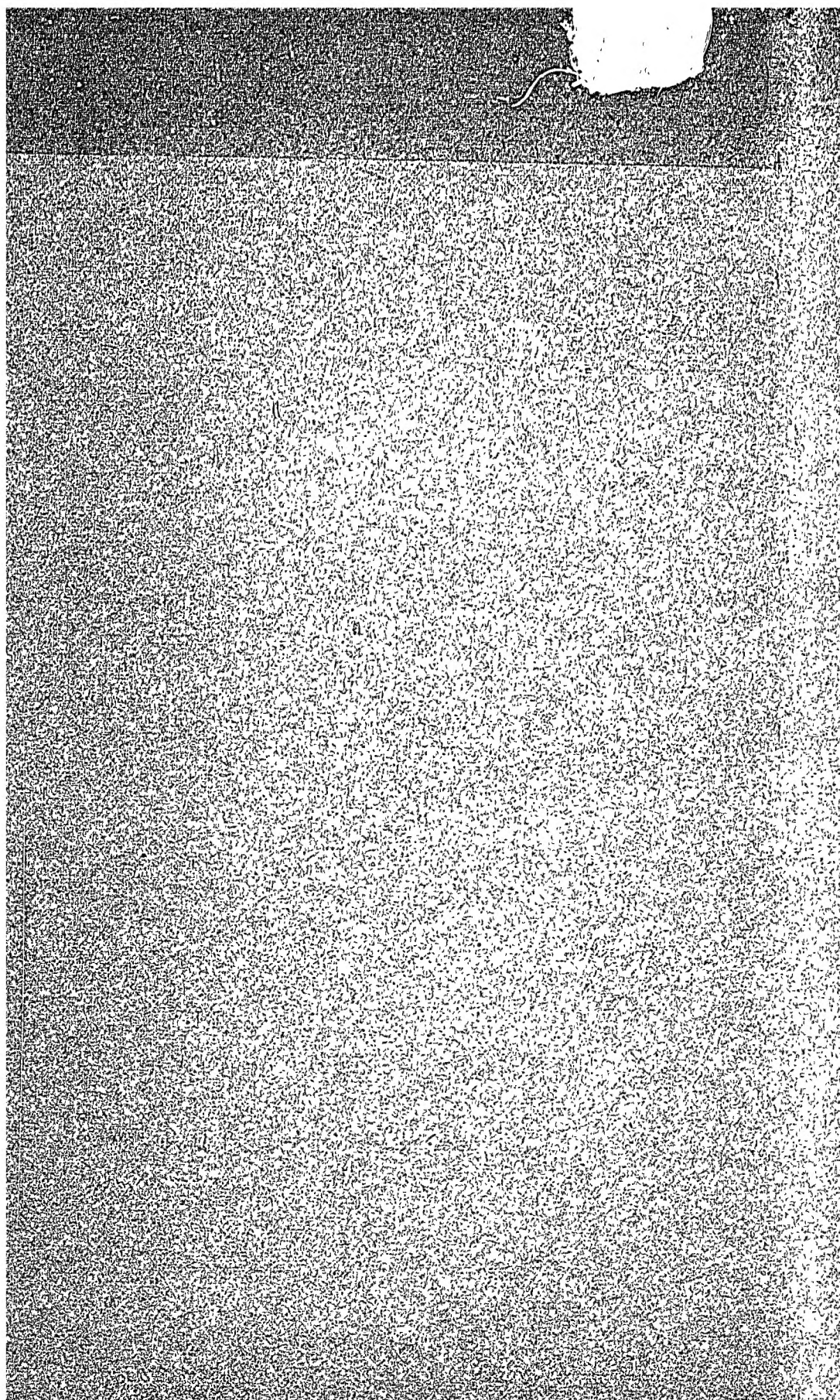
THE REPORTS OF
Mr. GEORGE BROWN, Watten Mains, Caithness;
And Mr. JOHN SPEIR, Newton Farm, Newton, Glasgow,
ON

The Agricultural Resources of Canada:—
Prince Edward Island; Nova Scotia; New Brunswick;
Quebec; Ontario; Manitoba; The North-West Territories;
and British Columbia.



Published by authority of the Government of Canada
(Department of Agriculture).

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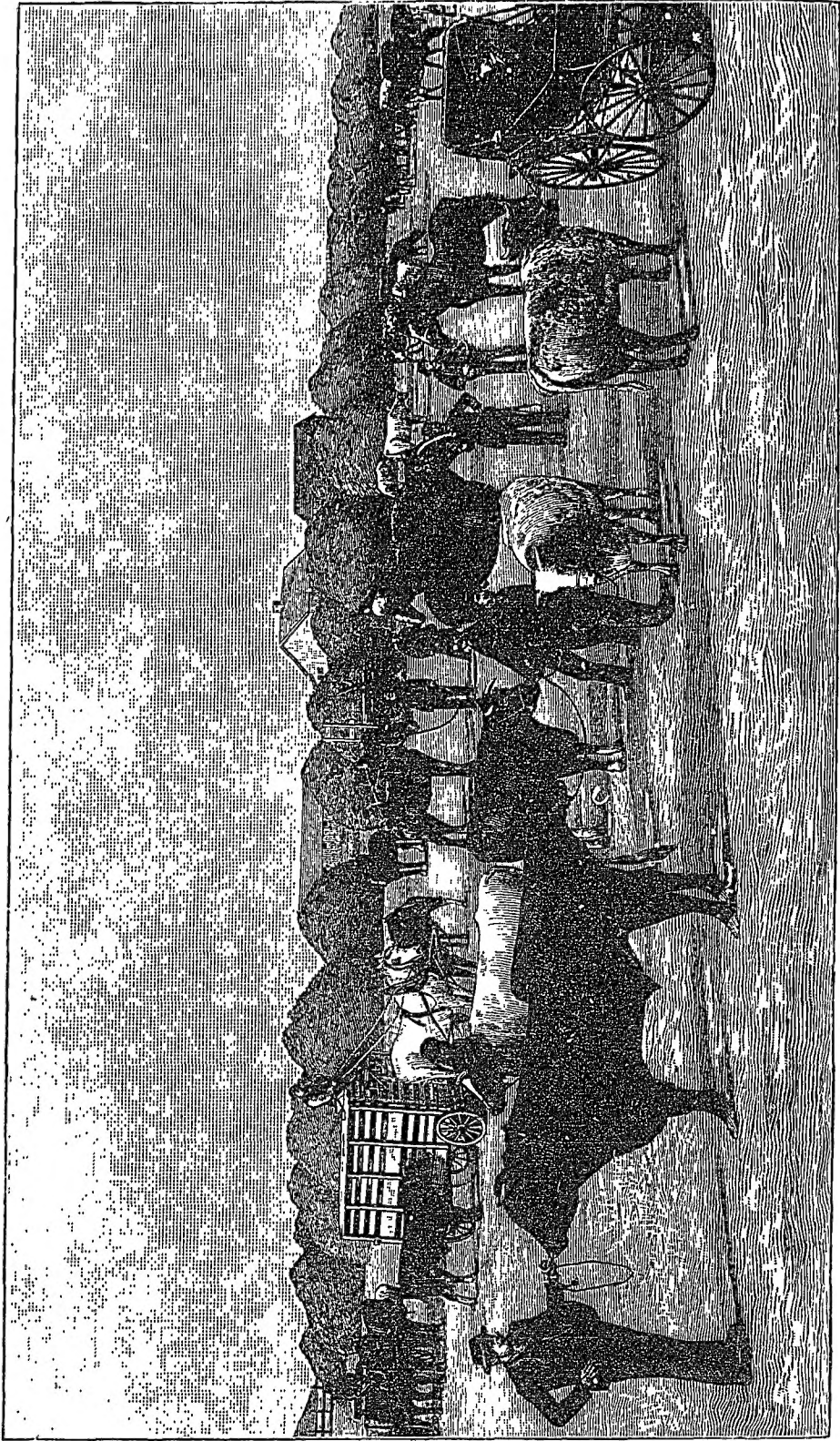
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FARM SCENE IN MANITOBA—THE BRERFORD STOCK FARM.

PREFACE.

IN August last the High Commissioner for Canada, by direction of the Minister of Agriculture, invited the following gentlemen, who are all connected with the agricultural industry in the different parts of the United Kingdom in which they reside, to visit the Dominion of Canada, to report upon its agricultural resources, and the advantages the country offers for the settlement of farmers and farm labourers, and the other classes for which there is a demand:—Mr. George Brown, Watten Mains, Caithness, Scotland; Mr. Arthur Daniel, 172, Dereham Road, Norwich, Norfolk; Mr. Wm. Edwards, Ruthin, Wales; Colonel Francis Fane, Fulbeck Hall, Grantham, Lincolnshire; Mr. G. Hutchinson, Brougham Castle, Penrith, Cumberland; Mr. E. R. Murphy, The Kerries, Tralee, Ireland; Mr. Robert Pitt, Crickett Court, Ilminster, Somerset; Mr. Wm. Scotson, Rose Lane, Mossley Hill, near Liverpool, Lancashire; Mr. H. Simmons, Bearwood Farm, Wokingham, Berkshire; Mr. John Speir, Newton Farm, Newton, Glasgow, Scotland; Major Stevenson, Knockbrack, Goshaden, Londonderry, Ireland; Mr. J. T. Wood, The Court, Halewood, near Liverpool, Lancashire.

The reports, if published together, would make rather a bulky volume, and it has been decided, therefore, to divide them into four parts, as under:—

Part I. will contain the reports of Messrs. Edwards, Hutchinson, Scotson, and Wood;

Part II., the reports of Messrs. Daniel, Fane, Pitt, and Simmons;

Part III., the reports of Messrs. Brown and Speir, from Scotland; and

Part IV., Messrs. Murphy and Stevenson, from Ireland.

Any or all of these volumes may be obtained, post free, by persons desiring to peruse them, on application to Sir Charles Tupper, Bart., G.C.M.G., C.B., High Commissioner for Canada, 17, Victoria Street, London, S.W.; or to any of the agents of the Canadian Government in the United Kingdom, whose names and addresses are as follows:—Mr. John Dyke, 15, Water Street, Liverpool; Mr. Thomas Grahame, 40, St. Enoch Square, Glasgow; Mr. John W. Down, Bath Bridge, Bristol; Mr. H. Merrick, Victoria Chambers, Victoria Street, Belfast; Mr. T. Connolly, Northumberland House, Dublin. Copies may also be obtained from the steamship agents, who are to be found in every village.

In addition to these reports, an official handbook of information is issued by the Dominion Government, and approved by the Imperial Government, which may also be procured, post free, on application to any of the Government agencies. It contains particulars of a statistical and general nature about the country, its resources and trade; the classes for which there is a demand in the Dominion, and which are confidently invited to settle in the country; the prices of provisions and other necessities; the rates of wages that are paid; and a more detailed description of the various provinces than can be given in the space at the disposal of the Tenant Farmers' Delegation. It is regretted that the delegates, except those from Ireland, were not able, owing to the limited time at their disposal, to pay a visit to the Maritime Provinces; but the pamphlet mentioned above, and others that are issued, supply full information in regard to those parts of the Dominion.

The agents of the Government will be glad to supply any information that may be desired as to the trade, industries, and varied resources of the Dominion; and persons contemplating settlement in Canada are advised, as a preliminary step, to place themselves in communication with the nearest Government agent.

In Canada the Government has agents at the principal points throughout the country. The following is a list:—

QUEBEC	Mr. L. STAFFORD, Louise Embankment and Point Levis, Quebec.
TORONTO	Mr. J. A. DONALDSON, Strachan Avenue, Toronto, Ontario.
OTTAWA	Mr. W. J. WILLS, Wellington Street, Ottawa, Ontario.
MONTREAL	Mr. J. J. DALEY, Commissioner's Street, Montreal, Province of Quebec.
SHERBROOKE	Mr. HENRY A. ELKINS, Sherbrooke, Province of Quebec.
KINGSTON	Mr. R. MACPHERSON, William Street, Kingston, Ontario.
HAMILTON	Mr. JOHN SMITH, Great Western Ry. Station, Hamilton, Ont.
LONDON	Mr. A. G. SMYTH, London, Ontario.
HALIFAX... ..	Mr. E. M. CLAY, Halifax, Nova Scotia.
ST. JOHN	Mr. S. GARDNER, St. John, New Brunswick.
WINNIPEG	Mr. THOMAS BENNETT, Winnipeg, Manitoba.
.....	Mr. J. E. TETU, St. Boniface, Manitoba.
BRANDON	Mr. A. J. BAKER, Office at the Railway Station.
REGINA	Mr. J. T. STEMSHORN.
CALGARY.....	Mr. F. Z. C. MIQUELON.
PORT ARTHUR	Mr. J. M. MCGOVERN.
VICTORIA, B.C.....	Mr. JOHN JESSOP.
VANCOUVER, B.C.....	Mr. MORRISON SUTHERLAND.

These officers will afford the fullest advice and protection. They should be immediately applied to on arrival. All complaints should be addressed to them. They will also furnish information as to lands

open for settlement in their respective provinces and districts, farms, for sale, demand for employment, rates of wages, routes of travel, distances, expenses of conveyance, and on all other matters of interest to settlers, and will receive and forward letters and remittances for settlers, &c.

The following are the land regulations prevailing in the different provinces of the Dominion :—

Prince Edward Island.—The available uncultivated and vacant Government land is estimated at about 45,000 acres. These consist of forest lands of medium quality, the very best having, of course, been taken up by the tenants in the first instance, and their price averages about one dollar per acre. Parties desiring to settle upon them are allowed ten years to pay for their holdings, the purchase-money to bear interest at 5 per cent., and to be payable in ten annual instalments.

Nova Scotia.—There are now in Nova Scotia about two millions of acres of ungranted Government lands, a considerable quantity of which is barren and almost totally unfit for cultivation; but there is some land in blocks of from 200 to 500 acres of really valuable land, and some of it the best in the province, and quite accessible, being very near present settlements. The price of Crown lands is \$40 (£8 sterling) per 100 acres.

New Brunswick.—Crown lands may be acquired as follows:—(1.) Free grants of 100 acres, by settlers over 18 years of age, on the condition of improving the land to the extent of £4 in three months; building a house 16 ft. by 20 ft., and cultivating two acres within one year; and continuous residence and cultivation of 10 acres within three years. (2.) One hundred acres are given to any settler over 18 years of age who pays £4 in cash, or does work on the public roads, &c., equal to £2 per annum for three years. Within two years a house 16 ft. by 20 ft. must be built, and 2 acres of land cleared. Continuous residence for three years from date of entry, and 10 acres cultivated in that time, is also required. (3.) Single applications may be made for not more than 200 acres of Crown lands without conditions of settlement. These are put up to public auction at an upset price of 4s. 2d. per acre; purchase-money to be paid at once; cost of survey to be paid by purchaser.

Quebec.—Lands purchased from the Government are to be paid for in the following manner:—One-fifth of the purchase-money is required to be paid the day of the sale, and the remainder in four equal yearly instalments, bearing interest at 6 per cent. The price at which the lands are sold is from 20 cents to 60 cents per acre (15d. to 2s. 5½d. stg.). The purchaser is required to take possession of the land sold within six months of the date of the sale, and to occupy it within two years. He must clear, in the course of ten years, ten acres for every hundred held by him, and erect a habitable house of the dimensions of at least 16 ft. by 20 ft. The letters patent are issued free of charge. The parts of the Province of Quebec now inviting colonisation are the Lake St. John district; the valleys of the Saguenay, St. Maurice, and the Ottawa Rivers; the Eastern Townships; the Lower St. Lawrence; and Gaspé.

Ontario.—Any head of a family, whether male or female, having children under 18 years of age, can obtain a grant of 200 acres; and a single man over 16 years of age, or a married man having no children under 18 residing with him,

can obtain a grant of 100 acres. This land is mostly covered with forest, and is situate in the northern and north-western parts of the province. Such a person may also purchase an additional 100 acres at 50 cents per acre, cash. The settlement duties are—to have 15 acres on each grant cleared and under crop at the end of the first five years, of which at least 2 acres are to be cleared annually; to build a habitable house, at least 16 feet by 20 feet in size; and to reside on the land at least six months in each year. In the Rainy River district, to the west of Lake Superior, consisting of well-watered uncleared land, free grants are made of 160 acres to a head of a family having children under 18 years of age residing with him (or her); and 120 acres to a single man over 18, or to a married man not having children under 18 residing with him; each person obtaining a free grant to have the privilege of purchasing 40 acres additional, at the rate of one dollar per acre, payable in four annual instalments.

Manitoba and North-West Territories.—Free grants of one quarter-section (160 acres) of surveyed agricultural land may be obtained by any person who is the sole head of a family, or by any male who has attained the age of 18 years, on application to the local agent of Dominion lands, and on payment of an office fee of \$10. At the time of making entry the homesteader must declare under which of the three following provisions he elects to hold his land, and on making application for patent must prove that he has fulfilled the conditions named therein:—

1. By making entry and within six months thereafter erecting a habitable house and commencing actual residence upon the land, and continuing to reside upon it for at least six months in each year for the three next succeeding years, and doing reasonable cultivation duties during that period.
2. By making entry for the land, cultivating it for three successive years, so that at the end of that period not less than 40 acres be under cultivation; residing for at least six months in each year during that time within a radius of two miles of the homestead; and erecting a house upon the homestead and residing in it for three months next preceding the application for patent.
3. By making entry, and within six months from the date thereof commencing the cultivation of the homestead; breaking and preparing for crop within the first year not less than five acres; cropping the said five acres, and breaking and preparing for crop not less than 10 acres in addition, and erecting a habitable house thereon before the expiration of the second year, and thereafter residing therein and cultivating the land for at least six months of each of the three years next prior to the date of the application for patent.

Persons making entry for homesteads on or after September 1st in any year are allowed until June 1st following to perfect their entries by going into actual residence. The only charge for a homestead of 160 acres is the entrance fee of \$10. In certain cases forfeited pre-emptions and cancelled homesteads are available for homesteads, but slightly additional fees are demanded from the settlers in each case, and when abandoned pre-emptions are taken up they are required to perform specified conditions of settlement. Full information can be obtained from the local agents. In the event of a homesteader desiring to secure his patent within a shorter period than the three or five years, as the case may be, he will be permitted to purchase his homestead at the Government price at the time, on furnishing proof that he has resided on the land for at least 12 months subsequent to date of entry, and has cultivated 30 acres thereof.

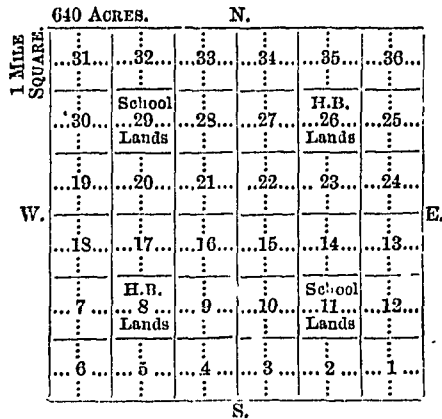
The following diagram shows the manner in which the country is surveyed. It represents a township—that is, a tract of land six miles square, containing

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36 sections of one mile square each. These sections are subdivided into quarter-sections of 160 acres each.

TOWNSHIP DIAGRAM.



The right of pre-emption has ceased to exist, having been altogether discontinued after 1st January, 1890.

Information respecting timber, mineral, coal, grazing and hay lands, may be obtained from any of the land agents. Homesteaders in the first year of settlement are entitled to free permits to cut a specified quantity of timber for their own use only, upon payment of an office fee of 25 cents.

It must be distinctly understood that the land regulations are subject to variation from time to time. Settlers should take care to obtain from the land agent, when making their entry, an explanation of the actual regulations in force at that time, and the clause of the Act under which the entry is made endorsed upon the receipt, so that no question or difficulty may then or thereafter arise.

List of Dominion Land Agents in Manitoba and North-West Territories.

Name of Agent.	Name of District.	Agency.	Post Office Address of Agent.
A. H. Whitcher ...	Winnipeg	Dominion Lands.	Winnipeg, Manitoba.
W. M. Hilliard ...	Little Saskatchewan		Minnedosa, ,,
W. G. Pentland ...	Birtle		Birtle, ,,
W. H. Hiam	Souris		Brandon, ,,
John Flesher ...	Turtle Mountain ...		Deloraine, ,,
W. H. Stevenson...	Qu'Appelle		Regina, Assiniboia, N.W.T.
John McTaggart...	Prince Albert		Pr. Albert, Saskatchewan, ,,
C. E. Phipps... ..	Coteau		Cannington, Assiniboia, ,,
E. Brokovski... ..	Battleford		Battleford, Saskatchewan, ,,
Amos Rowe	Calgary		Calgary, Alberta, ,,
P. V. Gauvreau ...	Edmonton		Edmonton, ,,
E. G. Kirby	Lethbridge		Lethbridge, ,,
T. B. Ferguson ...	Touchwood		Saltcoats, Assiniboia, ,,
E. F. Stephenson...	Winnipeg	Crown Timber.	Winnipeg, Manitoba.
Thos. Anderson ...	Edmonton		Edmonton, Alberta, N.W.T.
C. L. Gouin	Calgary		Calgary, Alberta, ,,
John McTaggart ..	Prince Albert... ..		Pr. Albert, Saskatchewan, ,,

British Columbia.—In this province any British subject who is the head of a family, a widow, or a single man over 18 years, may, by paying a fee of 8s. 4d., acquire the right, from the Provincial Government, to not more than 320 acres of Crown lands north and east of the Cascades, and 160 acres elsewhere. The price is 4s. 2d. an acre, payable by four annual instalments. The conditions are—(1) personal residence of the settler, or his family or agent; (2) improvements to be made of the value of 10s. 6d. an acre. Lands from 160 to 640 acres may also be bought at 10s. 6d. an acre, without conditions of residence or improvements.

The Esquimalt and Nanaimo Railway Syndicate have not yet fully arranged the terms upon which they will dispose of their unoccupied lands. They own about 1,500,000 acres, but they are much broken up by rock and mountains.

The land belonging to the Dominion Government begins near the sea-board, runs through the New Westminster district, and up the Fraser valley to Lytton; thence it runs up the Thompson River valley, past Kamloops and through Eagle Pass, across the northern part of Kootenay district to the eastern frontier of British Columbia. The country is laid out in townships in the same way as in Manitoba and the North-West Territories. The quarter-sections may be purchased at a price now fixed at \$2.50 (10s.) per acre, subject to change by Order in Council. They may be "homesteaded" by settlers who intend to reside on them. A registration fee of \$10 (£2) is charged at the time of application. Six months is allowed in which to take possession, and at the end of three years, on proof of residence and cultivation, he acquires a patent on payment of \$1 per acre for the land. If preferred, the homesteader can hold his land for the first two years after entry by cultivating from eight to fifteen acres (the former if the land is timbered, and the latter if it is not so encumbered). During the three years next thereafter he must reside upon it as well as cultivate it. Homestead grants of 160 acres (price \$1 per acre) can also be obtained for the culture of fruit. In case of illness, or of necessary absence from the homestead during the three years, additional time will be granted to the settler to conform to the Government regulations. These conditions apply to agricultural lands. The Dominion Land Agent for British Columbia is Mr. H. B. W. Aikman, New Westminster.

In addition to the free-grant lands available in Manitoba and the North-West Territories, several companies have large blocks of land which they offer for disposal at reasonable rates, from \$2.50 up to \$10 per acre. Among others, the Canadian Pacific Railway Company (Land Commissioner, Mr. L. A. Hamilton, Winnipeg) has about 14 millions of acres; and the Hudson Bay Company (Land Commissioner, Mr. Lawson, Winnipeg) has also a considerable area. The same remark applies to the Canada North-West Land Company (Land Commissioner, Mr. W. B. Scarth, M.P., Winnipeg) and the Manitoba and North-Western Railway Company (Land Commissioner, Mr. A. F. Eden, Winnipeg); and there are several other companies. The Alberta Coal and Railway Company also own nearly a million acres of land in the District of Alberta. The prices of these lands vary according to position, but in most cases the terms of purchase are easy, and arranged in annual instalments, spread over a number of years.

In all the provinces improved farms may be purchased at reasonable prices—that is, farms on which buildings have been erected and a portion of the land cultivated. The following are the average prices in the different provinces, the prices being regulated by the position of the farms, the nature and extent of the buildings, and contiguity to towns and railways:—Prince Edward Island, from £4 to £7 per acre; Nova Scotia, New Brunswick, and Quebec, from £2 to £10; Ontario, from £2 to £20; Manitoba and the North-West Territories, from £1 to £10; and British Columbia, from £2 to £15. These farms become vacant for the reasons which are explained with accuracy in many of the accompanying reports. They are most suitable for persons possessed of some means, who desire more of the social surroundings than can be obtained in those parts of the various provinces in which Government lands are still available for occupation and settlement.

Canada has already assumed an important position as an agricultural country, and the value of its exports of such products alone now nearly reaches \$40,000,000 annually, in addition to the immense quantity required for home consumption. The principal items of farm and dairy produce exported in 1889—the latest returns available—were: Horned cattle, \$5,708,126; horses, \$2,170,722; sheep, \$1,263,125; butter, \$331,958; cheese, \$8,915,684; eggs, \$1,851,503; flour, \$646,068; green fruit, \$1,604,203; barley, \$6,464,589; pease, \$1,449,417; wheat, \$471,121; potatoes, \$287,763. In many respects 1889 was not a favourable year, and if other years were taken, the exports, particularly of food-stuffs, would be considerably larger than those given above. Besides the articles specially enumerated, a considerable export trade was done in bacon and hams, beef, lard, mutton, pork, poultry, and other meats, as well as in beans, Indian corn, oats, malt, oatmeal, flour-meal, bran, and tomatoes. The chief importers of Canadian produce at the present time are Great Britain and the United States, but an endeavour is being made, and so far with success, to extend the trade with the mother country, and to open up new markets in other parts of the world. The products of the fisheries, the mines, and the forests are also exported to a large annual value; and the manufacturing industry is a most important and increasing one, especially in the eastern provinces, and includes almost every article that can be mentioned.

In many of the reports mention is made of the money system, and the weights and measures, obtaining in the Dominion. The dollar, which is, roughly speaking, of the value of 4s. 2d., contains 100 cents, equal to $\frac{1}{2}$ d. each. The following are the coins in use:—Copper, 1 cent;

silver, 5 cents, 10 cents, 25 cents, and 50 cents. Paper money is also much in use, and is redeemable at any time at its par value. The following are the standard weights of a bushel of the various products:—Wheat, 60 lbs.; Indian corn, 56 lbs.; rye, 56 lbs.; pease, 60 lbs.; barley (six-rowed), 48 lbs.; malt, 36 lbs.; oats, 34 lbs.; beans, 60 lbs.; potatoes and other vegetables, 60 lbs. The hundredweight and ton are fixed by statute at 100 lbs. and 2,000 lbs. respectively.

It is not necessary to extend this preface, or to summarise the various reports; they must be allowed to speak for themselves. They deal with Canada as it was seen by practical agriculturists, and refer not only to its advantages, but to its disadvantages, for no country is without the latter in some shape or form. It may safely be said, however, that Canada has fewer drawbacks than many other parts of the world; and this is borne out by the favourable opinions that are generally expressed by the delegation. Those who read the reports of the farmers who visited Canada in 1879 and 1880, will realise that immense progress has been made since that time—when the vast region west of Winnipeg was only accessible by railway for a short distance, and direct communication with Eastern Canada, through British territory, was not complete.

The Canadian Government, in inviting the delegation, wished to place before the public, information of a reliable and independent character as to the prospects the Dominion offers for the settlement of persons desiring to engage in agricultural pursuits, and it is believed that its efforts will be as much appreciated now as they were ten years ago. In Great Britain and Ireland the area of available land is limited, and there is a large and ever-increasing population; while at the same time Canada has only a population of about 5,000,000, and hundreds of millions of acres of the most fertile land in the world, simply waiting for population to cultivate it, capable of yielding in abundance all the products of a temperate climate for the good of mankind. It only remains to be said that any persons, of the classes to whom Canada presents so many opportunities, who decide to remove their homes to the Dominion, will receive a warm welcome in any part of the country, and will at once realise that they are not strangers in a strange land, but among fellow British subjects, with the same language, customs, and loyalty to the Sovereign, that are the characteristics of the old country.

THE REPORT OF MR. GEORGE BROWN,

Watten Mains, Caithness, N.B.

DURING the past ten years the number of reports, pamphlets, &c., which have been written upon the resources of Canada by "all sorts and conditions of men," leave little of an original character to be said upon the subject. Keeping in view this fact, my Report shall be chiefly confined to the experiences of Scotch settlers who have emigrated from the North of Scotland, as there can be no doubt the success or non-success of these men, given in a concise form, will have greater effect in the localities from which they emigrated than any amount of a general description of the country.

At the outset it may be as well to explain that any views set forth in this Report are not to be held as beyond dispute, but as the impressions of one who has only been a short time in the country.

Since the completion of the Canadian Pacific Railway, which spans the continent from the Atlantic to the Pacific, the Government of the Dominion has become aware that there are immense tracts of fertile lands, excellently fitted for the growth of all kinds of grain and the rearing of stock of every description. These lands are situated in Manitoba, the North-West, and British Columbia, nearly all of which are suitable for settlement by all classes likely to emigrate, be they capitalists, tenant farmers with some means, small farmers, or labourers who have a knowledge of farming. In order to obtain a share of the tide of emigration which is ever flowing from the older European countries, the Canadian Government some time ago resolved to invite a number of representative farmers from England, Scotland, Ireland, Wales, and France to visit the Dominion, whose reports upon the present condition and future prospects of the Dominion would be received with greater confidence by intending emigrants than the somewhat highly coloured statements of emigration agents and other interested parties. Every member of the delegation is therefore fully aware of the responsibility attached to the issue of his report, if such prove misleading or overdrawn. Emigrants who have been induced to leave this country upon the strength of any report, and find Canada a different land from that represented, are not likely to hide their light under a bushel, but will soon make known in somewhat forcible language their opinions of the authors.

Until lately Canada was believed by the majority of people in this country to be a land covered for nearly two-thirds of the year by snow and frost, with few and brief glimpses of sunshine during the remaining third, which was followed again by a covering of eternal snow; a land of ice and Indians, bears and blizzards, unfit for the abode of the Anglo-Saxon race, except upon the seaboard and in the vicinity of the Great Lakes.

The exact opposite is, I fancy, nearer the truth, as the winter often does not set in until late in November, and the thaw generally

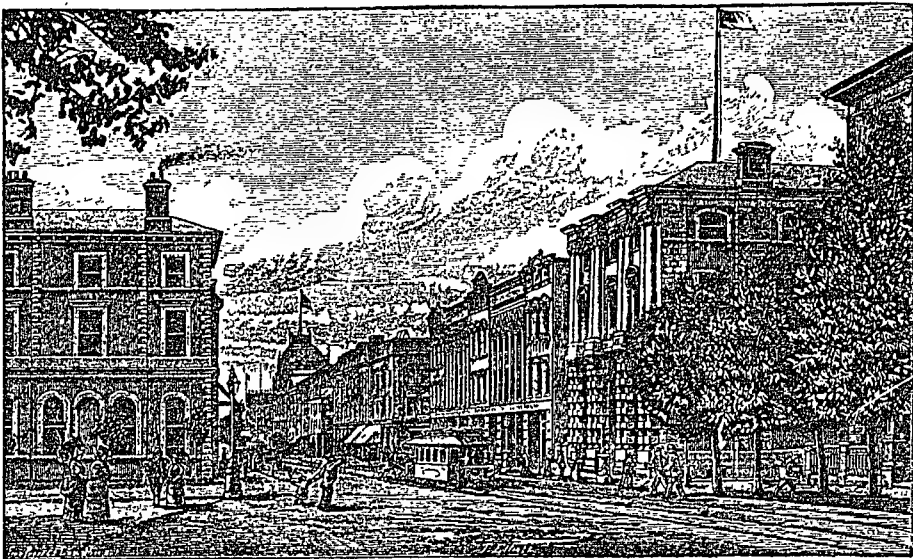
takes place towards the end of March. In a country so vast in extent the climate must of necessity be varied: for this reason, as the various provinces come under notice this most essential matter, upon which all successful agriculture depends, will receive attention.

The immense area of Canada can hardly be realised. During the ten weeks' travel accomplished by the delegation, in which time they went over 12,000 miles per rail and over 1,000 miles by road, they began to comprehend the vastness of the country, as they could but touch the fringe at various points of the "Great Lone Land" of Butler.

The route followed by the majority of the delegation will be fully set forth in the other reports; so, to avoid repetition, I shall pass over this part with the remark that the distance which was gone over by the delegation could never have been accomplished were it not for the shrewdness of the Hon. John Carling, Minister of Agriculture, in arranging to have a special sleeping car placed at our disposal, and the admirable plan of the journey suggested by him; the courtesy of the railway companies, notably the Manitoba and North-Western, in placing special trains at our command wherever time could be saved; and the energy and thorough knowledge of the country displayed by Mr. G. H. Campbell, Winnipeg, who acted as pilot throughout the trip. These very circumstances have, however, been the subject of remark both in this country and in some parts of the Dominion, the general criticisms being—that we were in the hands of the Dominion officials, who would take very good care to show us only the better parts of the country; that the season being too far advanced before going out, the crops being all harvested, we would have to content ourselves with a general view of the country, which would afford insufficient data to form correct conclusions as to the agricultural resources of the country. In the first place, the delegation had an absolutely free hand to go where or when they pleased, we having only to intimate a day or two before the route agreed upon by us, or the locality we wished to visit. In the second place, I must remind the readers of this Report that the delegation were all practical farmers, the great bulk of them being excellent judges of land of all qualities. We also saw the crop in stook or stack, and the green crops growing upon the ground. We also took advantage in a general way of the well-known jealousy, or, rather, of the idea held by nearly every man that his own particular location is situated in the very best part of the Dominion. We had, in consequence, only to ask an Ontarian what he thought of Manitoba and the North-West, or *vice versa*, and the shortcomings of either province would at once be depicted in most fluent and graphic language. By striking an average between the two, we could arrive at a pretty accurate estimate of the locality under discussion.

Ontario.—The Eastern provinces have been visited by another section of the delegation, as our time was very limited on our return from the North-West. This Report shall therefore be confined to the Western provinces of the Dominion. The Province of Ontario embraces within its bounds an area of something like 182,000 square

miles, and is situated along the margin of the Great Lakes. The northern portion of the province is wild and broken, and, from an agricultural standpoint, comparatively worthless at present. It is, however, covered with timber, which, in the near future, will become an invaluable possession, as it appears to be simply a question of time when the exhaustion of the forests of the United States will create a demand for lumber for the States lying upon the eastern seaboard. The fertile land lies towards the south and east of the province, between the track of the Canadian Pacific Railway and the lakes; the veritable garden of Ontario being situated in the peninsula formed by Lakes Ontario, Erie, and Huron. Here we have well-cleared farms, excellently situated, and cultivated more in accordance with the ideas of Old Country farmers.



A VIEW IN LONDON, ONTARIO.
(Richmond Street, looking south.)

There can be no doubt, Southern and Western Ontario offer great inducements for old country farmers with some means to settle there instead of moving further west. By so doing they obviate the necessity of "roughing it," and settle down in the midst of a community far advanced in the comforts and luxuries of life. Life is too short for a man of middle age to go into the bush and chop his way to a farm of a couple of hundred acres—all the more when he can buy an improved farm at a reasonable figure: this can be readily done just now, as many of the pioneers whose families are now grown up are inclined to move west "for the sake of the boys."

There are also farms vacant through the financial embarrassments of the owners, who could not, or would not, adapt themselves to the changed circumstances which affected farming all over the Dominion since the opening up of the North-West and the lowered prices of wheat. Many farms have also become exhausted by the ruthless and

slovenly mode of cultivation adopted by the occupiers in the continuous growth of wheat. Such land would soon respond to a different system, such as mixed farming. Farms vary in size, running from 100 to 200 acres and more.

Land partially cleared and improved can be bought at from £4 to £10 an acre, the price depending upon locality and value of improvements. Near towns it often runs up to over double these figures. There are no free grants of land in this district, but such may be had in the uncleared parts of the province. It is rather a serious matter for a new-comer to begin and clear land, as it would cost from £4 to £6 an acre. This outlay in a district where the climate might prove unsuitable for the particular branch of farming the settler wished to take up would be too much of a risk, when good land can be bought ready cleared in a good locality and better climate.



FARM SCENE, ONTARIO.

The average yield of cereals throughout the province is—Autumn or fall wheat, 18 to 20 bushels; spring, 16; barley, 25; oats, 32 to 35 bushels per acre. Soils are made up of, or may be classed as, the various loams, ranging from sandy to clay. Many are very rich in vegetable matter, notably those overlying the limestone. Wheat cultivation has become relatively unprofitable in Ontario since Manitoba and the North-West became wheat-producers. Ontario has, in consequence, adapted herself to the change, the outcome of which has been a more systematic style of procedure, many having gone into mixed and dairy farming. Rotation cropping, as a result, is being practised, the lines generally being a modification of the well-known Norfolk system—wheat, turnips, barley, clover. By allowing the grass—timothy and red clover—to lie down

a year or more, and thus by introducing oats, beans, or peas into the rotation, it may be extended indefinitely. While at Ottawa we visited the Experimental Farm (which will be further referred to). We were informed by Mr. Carling that a crop of Indian corn then being cut would weigh 20 tons an acre. The corn was in the green stage, and was intended for ensilage, equal quantities of hay and it being chaffed and put into the silo. By experiment Professor Saunders has found that the feeding quality of corn in this state is equal to one-half that of good hay. If this be so, it will have a very marked effect upon the agriculture of the districts in which this crop can be grown, Ontario being one. It will diminish, if not put an end to, the cultivating of that most expensive crop, turnips, as here we can obtain 10 tons of good feeding stuff off an acre of land at a nominal outlay—a considerable difference from $1\frac{1}{2}$ to 2 tons of hay, this being the average produce per acre of this crop. Stock is now being shipped to England from Canada, which places the Ontario farmer in a better position than his Western brethren, as the cost of transport is much less, and his cattle are saved the deterioration incidental to conveyance by railway. Cattle are fairly well bred on the farms, thanks to the excellent blood introduced by the late Hon. Geo. Brown at Bow Park, and many others. It is a matter of regret that many of the best bulls from the Bow Park herd find their way across the line to the States. Judging from what the delegation have seen of Canadian cattle generally, they must be classed as "rough," and want breeding. I am aware that a gradual improvement has been effected during the past 12 or 15 years by many farmers, who have expended large sums in the importation of pedigree stock. Still there is room for further improvement in this direction, as it would surely pay breeders to select their sires more carefully, as quality on this side of the Atlantic means money: a beast well bred will at least fetch £2 to £4 more money when sold either as fat or store. Many rough, lanky brutes seen by us could not be cashed in the English markets. Here is an opening for a level-headed breeder from the old country. Not only in this province, but in the North-West, there is room for any number of men of this kind. I am quite aware of the difficulties farmers have to contend with in a new, unfenced country; but I cannot agree with the idea prevalent in many parts of the Dominion that the country is unsuitable for the breeding of higher grade cattle. Let those croakers visit Bow Park, Cochrane Ranch, or Binscarth Farm, and it may open their eyes to the fact that the very bluest Shorthorn blood thrives and improves in its new environments.

Dairy farming is another branch of agriculture recently started in Ontario. There are now over 700 cheese factories and from 30 to 40 creameries. This is a considerable advance on old country practice, and is well adapted for the manufacture of cheese and butter of that uniform quality so necessary for exportation. These factories are established at various centres throughout the province. The farmers in each district send their milk daily, and a balance is struck at the end of the season, every man getting his returns in proportion to the milk sent to the factory. It is evidently found to be remunerative, as milch cows are on the increase in the province.

Fruit-growing is a special industry near Hamilton, and down by Niagara River; there being extensive orchards and vineries in those districts. Grapes, peaches, &c., can be seen growing and ripening in the open air. Vegetables are also seen of every description, large in size, and excellent in quality. Throughout all the province potatoes are a most prolific crop; they grow to a big size, are sound, and extra good quality. Sheep are reared in considerable numbers, there being about 1,400,000 last year within the province. This number might be increased with advantage, especially on the partially exhausted farms, as there is no kind of stock that increases the fertility of land so quickly, especially if fed with corn during winter and summer. In general, the flocks seen by us were South Down or cross-bred. They wanted uniformity of type—a pretty sure indication that they were badly bred. A little attention in this direction would be amply repaid by the production of better-class mutton, and wool of a superior kind. Pigs and poultry are most prolific, and find a ready market at home and in the States. Undernoted are the current prices of produce, taken from the *Toronto Globe*, 1890:—

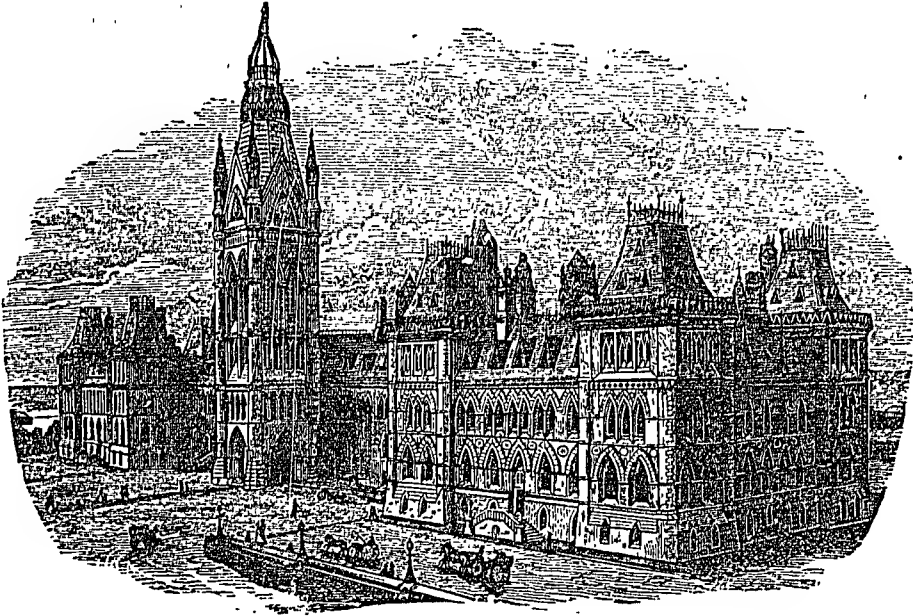
Wheat, 31s. 4d. per 8 bushels.	Beef, 4d. to 6d. per lb.
Barley, 20s. 8d. „ „	Mutton, 4d. to 7d. per lb.
Oats, 13s. 4d. „ „	Pork, 4d. to 6d. per lb.
Peas, 20s. „ „	Chickens, 2s. per pair.
Butter, 7d. to 9d. per lb.	Ducks, 2s. to 2s. 6d. per pair.
Cheese, 4½d. to 5d. „	Turkeys, 4s. each.
Carrots, 1s. 3d. per basket.	Hides, 2½ per lb.
Potatoes, 2s. 6d. per bag.	Tallow, 2d. „
Eggs, 9d. to 10d. per dozen.	Wool, 9d. „

These prices ought to leave a good margin for profit, when the cost of production is considered.

Ottawa is the chief seat of the lumber trade of the province. While there we visited the saw-mills, said to be the largest in Canada. These mills work day and night during the open season; when the river from which the motive power is derived becomes frozen up, many of the hands go up country and take a turn at log-chopping. The timber is floated down the rivers during summer, so that every little stream during this season is literally covered with floating logs. When these arrive in the vicinity of the mills, they are floated into specially prepared enclosures, from which they are taken as required to the saw-mills. Logs of considerable dimensions are drawn up the slide by means of an endless chain to the floor of the mill. In a very short time the logs are next seen as planks, &c. The labour-saving devices adopted in those mills are simply astounding to visitors from the old country. An idea may be formed of the systematic way the work is gone about when one is told that these mills cut up on an average 600,000 cubic feet of timber daily.

In the vicinity of the town another important industry is carried on, viz., phosphate mining. Canadian phosphates have been for some time known in the English market as “apatite.” This substance is crystalline in form, and consequently hard, brittle, and glassy when pulverised. For a considerable time this form of phosphate was comparatively neglected, owing to the difficulty of grinding; improved

appliances have overcome this, and now a steady demand has set in for this valuable manure, which, when treated with sulphuric acid, makes a high-class superphosphate.

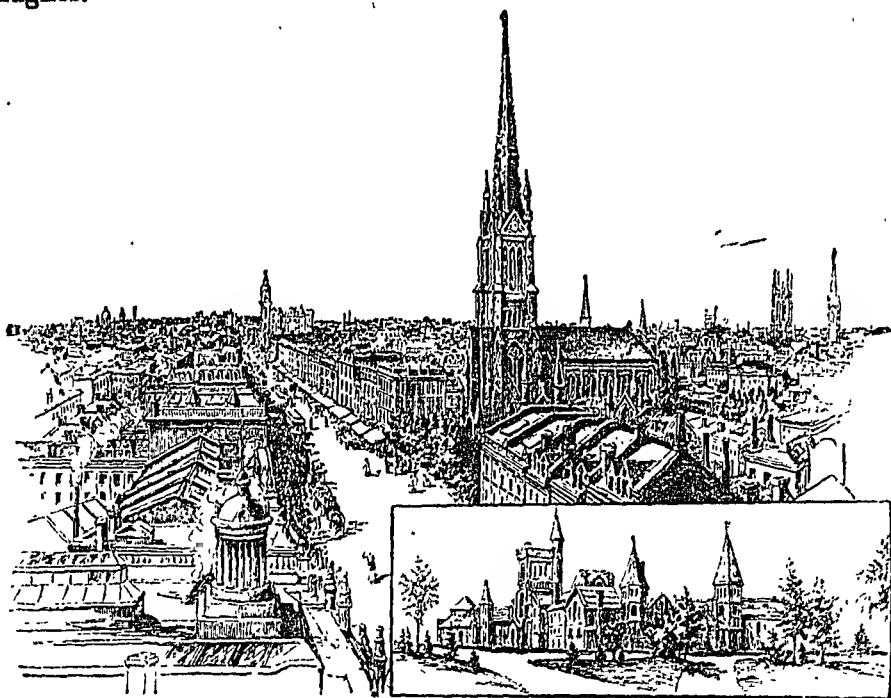


PARLIAMENT BUILDINGS, OTTAWA.

The Toronto Fair was next visited by us. Here we had an opportunity of comparing the products of all the different provinces of the Dominion. These were, upon the whole, a most excellent display, and far exceeded anything of the kind seen in this country.

In the stock sections, horses were of their kind a good show, but to our ideas light and a bit weedy. Driving horses are undoubtedly above the average, and are extremely hardy, and excellent goers, showing little sign of fatigue after covering long distances. Still the great bulk seen by us were unfit for farm work. The mares are now being crossed with the Clyde and Shire, in order to breed heavier animals, for which there will soon be a demand in Canada, as the ploughing with oxen will yearly fall into disrepute after the country becomes more settled. This style of locomotion may be steady, but it is much too slow. The land also being all broken will be more easily cultivated, so that all farm work will be done by horses. Shorthorn, Angus, Hereford, and Holstein cattle were excellent, but rather few specimens in some of the classes. Sheep were represented by South Down, Leicester, Lincoln, &c., and were but a middling turn-out. In the implement department the Canadians are a long way ahead of us. The most improved appliances are seen here in nearly a perfect state, the construction of every machine being most carefully done; the materials, generally steel, produce a light machine, easy to draw, doing its work well, with little or no breakage. The delegation were very much indebted to Vice-President MacMaster and the directors for their kind-

ness while visiting Toronto Fair. Before leaving this city we were invited by Chairman Somers, of the School Board, to visit the schools and Veterinary College. This we were enabled to accomplish, under the guidance of the chairman, Mr. Herbert Kent, solicitor, and Inspector Hughes.



TORONTO.

The Toronto schools are perhaps the best and most complete in the Dominion. The system of education adopted is admitted to be the best in the world. Every branch of education is here taught, and thoroughly well done. During our visit the fire alarm was sounded, and in a few minutes every man, woman, and child was in the courtyard; there was no confusion, the children, headed by their respective teachers, coming out in divisions. We also saw the map of Europe drawn in outline by a whole class in five minutes. The financial arrangements are similar to those adopted in this country. We next saw the Veterinary College, and were taken round by Dr. Smith, the proprietor and principal. This is an institution which must have a considerable effect for good in a country where horses, cattle, and sheep will in time be counted by the million.

The question is frequently asked: Should a young man going out to Canada with capital, pay a premium to a farmer in order to learn farming? The payment of any premium is, in my opinion, unnecessary, and a waste of money, as any young man who is not afraid to work and to "rough it" a bit can readily obtain employment with some good farmer; thereby not only will he gain experience, but will be able to earn and save money. There are some, however, who may prefer to

take things more easy, and who can afford to expend money in acquiring a knowledge of agriculture; let those take a session or two at the Agricultural College of Guelph, where they will obtain a thorough grounding in the science and practice of agriculture. This institution is deserving of more than a passing notice, as its influence is widespread not only in the Dominion, but wherever agriculture is looked upon as something more than following in the "rut" of centuries, and where scientific knowledge, allied with sound practice, has placed agriculture as a chief factor in the weal of a nation. The College is supported by the Ontario Government, and its fees are so graduated, that a resident in the Province can obtain a first-class agricultural education at a nominal cost. There is a farm of 550 acres attached to the College, where a whole army of professors and superintendents daily, while in session, give practical lessons to the students.

The climate of Ontario is variable. In the vicinity of the lakes all kinds of fruit can be grown in the open air. The winter sets in later and lasts shorter than further north. During summer the extremes of heat and cold are less felt, as the proximity of such an immense volume of water tends to modify it. When the lakes are frozen the air becomes dry, and has an invigorating effect upon all animal life. The average duration of the winter is from four to five months.

Before leaving Ontario, I have to record my sincere thanks to Mr. Blue, Deputy Minister of Agriculture, for much valuable information and books relative to the province.

Manitoba and the North-West.—It is to the men who conceived the plan and executed the work of building the Canadian Pacific Railway that is due the credit of opening up and placing at the disposal of the Dominion those immense plains of fertile land known as Manitoba and the North-West.

Before the advent of the railway these vast regions were comparatively unknown, and squatted upon here and there by those hardy pioneers who transformed the unbroken forests of Ontario into fertile fields and comfortable homesteads. Without the means of transport afforded by the railway, those vast regions must have still remained the haunt of the buffalo, and the happy hunting ground of the Indian.

Instead of this, a wide area upon each side of the railway line has been brought under cultivation. Towns have sprung up in a marvelously short time all along the route until the foot of the Rocky Mountains is reached, and the whole aspect of the country has become so changed that to me it appears, in this land of surprises, to be the greatest wonder of all. As an example, when visiting the show at Regina, we were shown Indian exhibits which compared favourably with those of neighbouring farmers in wheat and vegetables, as well as in female industries, such as embroidery, knitting, &c. Yet we were told that eight years ago these Indians were uncivilised, wandering about the prairies more often in their war paint than in the garments of peace. Yet in this short time these same Indians have settled down, and are now competing with the white settlers in the markets of the country.

Physical Aspects.—From Winnipeg to the foot of the Rocky Mountains there lies an immense plain, broken here and there with rising ground which can hardly be looked upon as mountains. This land is divided naturally into three areas, all of which lie at different altitudes. West from Winnipeg we have the Red River Plain, extending out until it reaches a point about half-way between Winnipeg and Brandon. This is the first area, the average height above the sea level being about 800 feet. From this point west until near Moosejaw the second table-land occurs, attaining an average height of about 1,600 feet. From this point until near the foot of the Rocky Mountains is occupied by the third table-land, whose average altitude is nearly 3,000 feet. The soils upon these plateaus, as they are termed, are to a large extent of a similar character, being composed of decayed vegetable matter, drift, and alluvial deposit. Deep black vegetable mould predominates on the lower table-land, which embraces within its area the best wheat lands in the Dominion. The eastern part of the second plain has soil of a similar character until Brandon is reached, the western portion being largely made up of the disintegration of the underlying formation. This area is admirably adapted for mixed farming. The third plateau, chiefly made up of *debris* transported from the Rocky Mountains, is more broken and rolling, largely interspersed with brooks and creeks, making it the home for ranching.

Climate.—The climate of Manitoba and the North-West is in great part one of extremes, summer heat being intense and winter cold severe. In Manitoba and the eastern part of the North-West, during the spring months the weather is dry, which enables spring work to be done quickly and the seed put into a dry seed bed. The rains of June give the needed moisture, to be followed by the warm summer sunshine of the succeeding months, hastening the growth of crops until maturity is reached, towards the middle of August. Winter generally lasts about five months, and during this time, there can be no doubt, is very severe. There are redeeming points, however, which are apt to be overlooked, as the degree of cold cannot be judged by the rise and fall of the thermometer, as much depends on the state of the atmosphere, which in this locality is very dry and bracing. When snow descends the weather generally remains without change until the thaw sets in, so that the settler can clothe himself once for all to meet the cold season, as there is no necessity to change his clothing, as he would require to do in a more variable climate. This is the chief reason why many prefer the winters of Manitoba and the North-West (as seen by the interviews) to those of this country. Blizzards occasionally occur, but so seldom as to be outside serious consideration.

Summer frosts, however, do sometimes occur, and are the chief difficulty wheat-growers have to contend with. To me it appears that the very dryness of the atmosphere during the period in which they happen is one of the causes. These frosts generally occur from the 15th to 26th August in some of the districts—that is, after the long-continued sunshine of the preceding months, which evaporates the sap out of every green thing on these broad prairies. This being followed by a cold, dry, moisture-absorbing wind from the North, must evaporate

moisture wherever such is present. It is a well-known law that where evaporation occurs a lowering of the surrounding temperature at once takes place: for this reason, the greater the amount of moisture present in the wheat during the occurrence of the frost, the worse the wheat will be frozen, and naturally wet lands are the first to suffer. Again, altitude has a great effect upon the climate of a district, 700 feet altitude being equal to one degree of latitude. This fact seems to be overlooked in some of the higher parts of Alberta and Saskatchewan, where wheat is sown at much too high an elevation to leave it a chance of escaping the vicissitudes of climate.

These considerations have made me arrive at the conclusion that the damage, on the average of years, sustained by summer frosts is immaterial in districts suitable for wheat-growing; this view being further confirmed by visiting perhaps the largest flour mill in the world, situate in Minneapolis, where we were told that summer frost did little damage to wheat when near maturity, it being only in the milk, or soft, stage of growth when frost could seriously affect its quality for milling purposes, and that the cry of frosted grain was mostly due to proprietors of elevators and millers who wanted to beat down prices. Summer frosts will yet become a thing of the past, when earlier sowing is carried on, and earlier varieties of corn are sown as a rule and not as an exception; when the country is cultivated under a regular rotation of cropping, as sown grasses, which draw their supplies of moisture from the deeper layers of the soil, will have a tendency to modify the dry nature of these northern breezes. Planting of trees would also have a marked effect in this direction, as well as in diminishing droughts and affording excellent shelter, when the Manitoban and North-Western farmers become alive to the fact that continuous wheat-growing will only pay so long as the supply of nitrogen is present to produce a paying crop. There is also another reason, and an important one, for this cry of summer frost—viz., farmers have too much land under wheat for the labour they can provide to harvest the crop. In consequence of this, when the wheat is ready for cutting, it all coming about the same time, the farmer works away, getting the first portion done in good time—in fact, getting about half through when he ought to have finished cutting, and thereby escaped damage. I have perhaps devoted too much time to this “summer frost” business, but as it was the only point anent which we received so contradictory evidence, I consider it better to go somewhat into detail as to this matter. The climate of the western portion of the third plateau, which lies near the Rocky Mountains, is modified to a very considerable extent by the chinook, or warm wind of the Pacific, which, after passing over the Rockies, strikes down to the adjacent plain. This district being entirely devoted to ranching, the benefit derived is very great, as horses, cattle, and sheep are allowed to run out on the prairies all the winter, often appearing in spring in excellent condition; while in the eastern portion food and shelter have to be provided to tide the stock over the winter.

Kind of Farming.—From the preceding may be inferred what is likely to prove the most suitable kind of farming in the various

districts. Manitoba, Eastern Assiniboia, and South-Eastern Saskatchewan are the great wheat-producing areas. Western Assiniboia, part of Alberta, and part of Saskatchewan are well adapted for dairy and mixed farming. These districts are well suited for settlement by small farmers, farmers with some means, and capitalists, provided their undertakings are conducted within reasonable limits.

The country for the capitalist, however, lies further west, where ranching prevails, as this entire district is, in general, well watered and well sheltered, and a supply of hay can readily be obtained from off the prairies or low-lying lands with which the country is to a considerable extent interspersed. In our journey through Manitoba we had every opportunity afforded us of acquiring information, as Mr. Scarth, M.P., Winnipeg, Land Commissioner of the Canadian and North-West Land Company, and Mr. Eden, Land Commissioner of the Manitoba and North-Western Railroad, did their level best to bring us into contact with all kinds of farmers in each district, and by their unwearied exertions brought under our notice a much greater extent of country than could possibly have been seen by us if left to our own efforts.



WINNIPEG.

Taking the Canadian Pacific line, which is the most central of the province, we proceed to Portage-la-Prairie, and arrive at the centre of the wheat-growing district. Our first visit was to that veteran, Mr. Kenneth McKenzie, M.P.P., Burnside; and we were all the more cordially received as the two of us were Scotchmen. After examining Mr. McKenzie's barns, &c., we inspected his cattle, numbering about 80, mostly made up of cows and heifers. The heifers were a good lot, and showed marks of being carefully bred. A fair, useful bull was also amongst the lot. Stretching away as far as the eye could reach we saw wheat lands in the stubble or ploughed; this being in

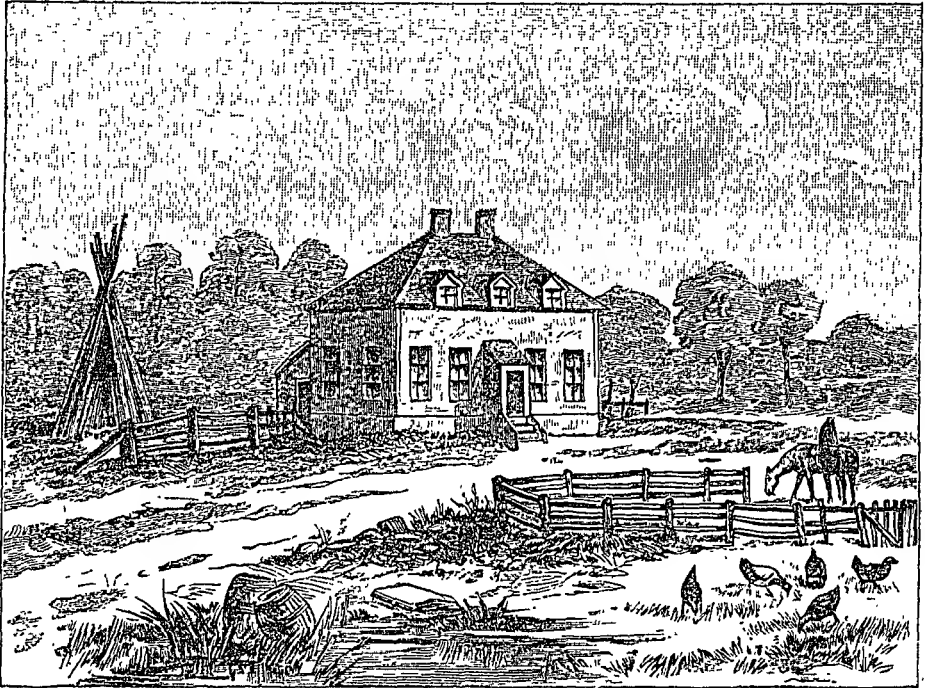
keeping with what was seen in our eight miles' drive from Portage. Mr. McKenzie came to his present holding 22 years ago, and simply squatted upon the land, borrowing his neighbour's team to put up his landmarks. He now, with his two sons, farms 2,240 acres of land, which he expects to have under crop this year. He has let his present holding at Burnside at what he considers a fair rent, and is altogether about the shrewdest man I have met in the Dominion. From Portage we struck up the Manitoba and North-Western Railway, after seeing all the country lying to the south of the Canadian Pacific, notably the crofter settlements (details of which will appear later). We stopped off at Neepawa, there went to the top of an elevator, and from this point of vantage saw the surrounding district. In a radius of 16 to 18 miles nothing could be seen but an unbroken level plain, dotted with wheat stacks in every direction. After such a sight one began to realise the extent of this new country, when we knew the view might be extended down by Portage, east by Brandon, and south to the boundary line of the States. At Neepawa the greater part of the land has been settled for about 10 years, and judging from the crops, the character of the soil, and the great energy displayed by the settlers during that time, no one can doubt of the future possibilities of this province.



HARVESTING AT SANDISON'S FARM, BRANDON.

I had the good fortune to meet Mr. Donald Fraser, late of Kintore, Aberdeenshire, who has been in this locality during the past eight years, two years of which he worked teaming about Winnipeg. Six years ago he took up his present homestead, and began life with two teams and \$10. Since then he has reclaimed 240 acres, with 80 acres pasture, which makes up his half-section. He now possesses 15 cows and 11 teams of horses, and would not take \$8,000 for his stock

and homestead. He has also started his son in another half-section, with 100 acres under crop, 12 cows, and 2 teams of horses. The second son has taken up a quarter-section—160 acres—and is joint owner of a portable steam threshing mill. I saw his grain, which was just threshed; and would estimate it as follows:—Wheat, 5,000 bushels; barley, 400 bushels; with about 200 bushels of oats. A pretty tidy affair this for five years' work.



A FARM-HOUSE IN MANITOBA.
(Drawn by Colonel Fane.)

We next arrived at Birtle, where we visited the annual show, and saw some fair samples of grain, excellent vegetables, and fair cattle; but sheep were a poor show. Horses were very good. After seeing the show, we drove to General Wilkinson's farm (Birtleside). The farm is 2,000 acres in extent, and was bought three years ago. Cultivation was begun two years since, and 300 acres are now under crop. The Birtle River runs through the farm, which makes it, owing to shelter from scrub and knoll, admirably adapted for breeding stock. After dinner, we adjourned to the Town Hall, when, after the customary speeches were gone through, it was suggested that some of the farmers in the district would come forward and give their experiences. A Mr. Cook first stood up, and said he came there 11 years ago with \$10 in his pocket, and chopped his way to a homestead, and that during all the time he had farmed he had only two crops which were touched by frost. He had done well because he had not put all his eggs in one basket, but went in for stock-raising

as well as corn-growing. The next speaker was James Murray, who came to the country along with his father in the year 1880; his native place is the parish of Dunnett, Caithness, Scotland.

The following is the substance of his remarks:—"I am a North country man, and began life there as a herd boy. I then was made 'cadger,' or 'loon,' and worked at that job for some years, until I got a chance of coming out here under a three years' engagement—my passage, &c., being paid for me if I stuck to the man for three years. Well, I got here, and went to the homestead and began work. The place was called Raeburn, and I got from \$8 to \$10 a month. I started the first morning to plough with oxen along with the others; some of us got on fairly, but others got all round the houses, and landed at the stable door instead of the end rig. After a time the 'boss' and I quarrelled, owing to another man. The 'boss' started and cursed me all round, same as if I was a 'nigger.' Well, I went away, and walked 25 miles; landed at Birtle with 25 cents in my pocket, which I spent on my supper. I could get no work, so started away other 25 miles without any breakfast, and got to near Saltcoats, where I got work at \$8 a month for a year. At the end of the year the 'boys' offered me \$25 a month for another year. Meantime, my father took up his homestead, and sold it in 1884. When my father joined me, and we took up our present homestead, in 1885, I bought a team for \$83. My brother, who had been working in the country, came and took up the quarter-section next me, and joined us, we having 320 acres between us. My father lived at the homestead, and my brother and I worked out when not needed, getting \$2 to \$2½ a day. I went down country to meet a brother and sister who were coming out, and for which I sent them \$60 to help. On getting there I had to wait a week or two, so went to a man and asked for a job. He offered me \$2 a day, but if I worked without putting my foot to the shovel he would give me \$2½. When I got back, there was a job at \$25. My homestead was after this entered upon, and we got 15 acres broken the first year; next year 25 acres more; and this year 70 acres; so that next spring I will have, with my brother, 110 acres under crop. We have also 12 horses, 30 cattle, and 50 sheep, with pigs and poultry. I have also a good house, 20 feet by 18 feet, stable and sheds, with self-binder, and all the other implements required for the homestead. I am also clear of debt, except a few things which I can pay out of my crop this year."

To me it appears that Mr. Murray deserves his good fortune, and is the right sort of settler for any new country—ready to take a turn at whatever comes his way, showing pluck, energy, and perseverance at every turn, and, upon the whole, "bad to beat."

Binscarth Farm.—We next proceed to Binscarth, where I was driven to the farm by Mr. Wm. Scarth, from whom I received much information as to Murray. Mr. Scarth came to the country a year or two ago, and has begun farming; he is quite sanguine as to his ultimate success, and from what I could learn as to his plans, is on the fair way to make money. We drove to the Binscarth Farm—a name well known in the North of Scotland, being of great interest to Orkney men.

The farm is well managed, there being 300 acres under cultivation. Labour being scarce forbids further progress in this direction. The crops were excellent, more especially oats and turnips. Taking the whole farm, it is an ideal location for the breeding of cattle, as it lies well, is sheltered from all points, having streams and valleys running through it in all directions, deep bottom lands where abundance of hay can be cut, and the soil under cultivation strong black loam.

The principal object for which the farm is carried on by the Scottish Ontario and Manitoba Land Company is the breeding of high-class stock, and for this purpose a Shorthorn herd has been established. The nucleus of the herd was obtained from Ontario some six years ago, and during that time a great advance has been made, both in numbers and breeding. The older cows inspected by us seemed to be patchy, and wanted the symmetry, which always is such a characteristic of the Shorthorn; many were also a little rough about the head and horns. This, however, only applies to the older cows. Those younger show improvement, and this continues in all the different ages until the calves of this year are reached. These are about the best I have seen anywhere, showing Shorthorn blood at every point; indeed, the heifer calves would be difficult to beat by the best herds in this country. There can be no doubt that these stages of progression are due to the care and judgment of Mr. Smellie, the manager, who appears to be an enthusiast in Shorthorn breeding. The herd now numbers over 300. The young bulls are sold annually, at from £20 to £35. The feeding is hay and straw, bruised oats, and bran for cows and young bulls. Young cows and heifers are turned out to the prairie during summer, getting no extra feed.

The company owns 30,000 acres of land in this vicinity, all of a similar character. The establishing of this farm is therefore a wise and far-reaching policy, as it not only gives the settlers who have taken up homesteads the opportunity of obtaining good sires to use in their herds, but many experiments are conducted on the home farm, which, when successful, are adopted by these settlers. The latter are in consequence prosperous, which gives the locality an excellent character, and results in settlement and enhanced prices for land in the district.

Barnardo Home.—We afterwards visited Russell, and drove to Dr. Barnardo's Home and Farm for Boys. The farm consists of 8,000 acres, 5,000 being purchased, and 3,000 presented by the Manitoba and North-Western Railway Company. The object is the reclamation of the waifs of London and other large cities. There is room for 60 boys in the Home: these are generally from 15 to 17 years of age, and are kept here for a year or so, and during that time are instructed in all kinds of farm work; afterwards they are drafted out amongst the farmers in the district. There is a demand for the Barnardo boys, so that the institution is of real benefit to the neighbourhood. Some 300 acres are at present under crop, and a garden of 25 acres, in which all kinds of vegetables are cultivated. There is also a fair stock of cattle and sheep, and the best Shorthorn bull I have seen in the country. A

creamery has been set agoing, in which 30 lbs. of butter are made daily.

Saltcoats—Crofters.—We next visited Saltcoats, in which district the crofters sent out under the auspices of the Imperial Government are settled. The district is a wide one, and consists of great tracts of prairie land, covered here and there with scrub. The soil is good, being a deep fertile loam; water being obtained anywhere by sinking wells from 10 to 12 feet.

This settlement consists of 49 families, who were sent out in 1889; other 30 families being located near Pelican Lake, in Southern Manitoba, in 1888. The Imperial Government provided means (£120) for each family, which was expended on their transport and homestead, rations being given them until their first crops arrived at maturity. The money advanced is to be repaid in instalments spread over a number of years.

D. Grahame, an old Hudson Bay man, who came out to the country one and a half years ago, for the second time, as a Government emigration crofter, says:—

“I have to complain of great hardship the first year, because the crops did not grow for the want of rain, and I could not get work at all. I wrote home to my friends that no one should leave there and come to this country. When the harvest of this year—which is a good one—was over, I was better pleased with the place, and would not return home on any condition. I have to complain of the charges the people of this country make for their goods. I have also to complain that the rations were stopped too soon.”

NOTE.—In cross-examination, find that this man had been offered work on the railway and refused it, preferring to occupy his spare time drawing firewood to Saltcoats.

Robert McKay, Stornoway:—

“I have 11 acres under crop this year, and will have other 20 acres broken for 1891. I worked on the railway in the winter time, and got 5s. per day. I think my land not fit for cattle, as the water is scarce. I did not like the country last year, as we had no crop owing to drought, but this year I think a great deal better of it. I am quite satisfied with everything done by the people or Government at home. When we got to Halifax we began to get trouble. I think I was charged \$30 too much for things bought, and I am not satisfied with having only the half of a waggon, as my neighbour and I often want it the same day. I would rather have a cow less and get a whole waggon. I would have no hesitation in telling my friends to come to this country, and would not now leave it for anything.”

Charles Docherty, North Uist:—

“I have 12 acres under crop this year, and planted 10 bushels potatoes, and have a return of 160 bushels of potatoes and a good crop of wheat. My family also ate potatoes from June till September. I have 12 head of cattle, including my work oxen. I expect to have 20 acres under crop next year. I would not leave the country unless they dragged me away with ropes. I was not pleased at first.”

Alex. McDonald, Uist:—

"I have 12 acres under crop, and expect to put 10 acres more next year. I have nine head of cattle and nine of a family. My family are all healthy. There is a school near us being built. We have a sermon every other week. I am very well pleased with the country, and would not leave it, as I think it the best place in the world for a man with a family."

NOTE.—When asked what he thought of the action of the 18 families who left their holdings and took to lumbering instead, he replied, "I believe they made a mistake, owing to the bad crop the first year, which they will regret all their lives. I think they were misled by a man named Murray."

Martin Macdonald:—

"I have 8 acres under crop this year, and 4 acres broken for next year. I did not like the country last year, but am very well pleased with it this year. I worked for the railway, and made \$83 in three months. This money kept us all the winter. I wish all my friends to come out. I could not go back to live in the old country. I have written for my mother, brother, and two sisters to come here, and I think they will come; anyway, I wish no better place."

Kenneth McIvor:—

"I have 12 acres under crop this year, and expect to have 20 acres more next year. I have 11 of a family; one girl, aged 16, is nearly blind, and in the hospital at Winnipeg. I have to complain of things being dear here, and of the doctor who inspected us at Greenock for keeping us long on deck on a very cold night. I like the country, and think all my friends ought to come out here, as it is a grand place. I was much displeased with the country last year, because the crop was a failure; but now I am writing home telling them to come, and to Winnipeg for my brother."

Pelican Lake and Killarney.—This settlement consists of 12 families from Harris and 18 from Lewis, the latter being settled on the opposite side of the lake. These emigrated in 1888.

D. McKenzie, Harris, began life with a team, cow and calf, and settled on 160 acres of land. During the first year he broke 8 acres, and in 1890 had 40 acres under crop. His cattle have done well, and he sells enough butter and eggs to keep the house. The winter is not so bad as in the old country, because when the snow comes on it never changes; so that one day one does not get wet, and the next dry, the same as in the old country. Would not leave the country for the same quantity of land in the old place. There is a good school and a church near the homestead.

Roderick McKay, Harris, has put in 44 acres wheat, also 5 acres for his father, who is an old man, and resides on a neighbouring homestead. The potatoes were an excellent crop, and first-rate quality. He has also broken 10 acres more this season for his father. He has six of a family, who are all well pleased with the country. He has 11 cattle, 2 pigs, and lots of poultry.

D. Stewart, Fort Augustus:—

Interviewed Mrs. Stewart. "I did not like the country at first, feeling it very lonesome, as there were no neighbours about; but I got

over that in time, and would not now like to leave the place. I have four of a family, and we hope to do well by them in the time to come. We have 70 acres this year under crop, beside potato ground. We have eight cows in calf, five cows giving milk, and a litter of young pigs, which we sell when they are a month old. I do not find the winter colder than in the old country. I get 9d. per lb. for butter, and 5d. per dozen for eggs. This is the grandest country in the world for rearing stock and poultry, as heifers will have a calf when 18 months old."

The next is the report of an interview Lord Aberdeen had some time after with one of these crofters, and as it is representative, I here reproduce it. The Earl called upon John McLeod, who is the leading crofter of the settlement, who replied as follows:—

"Well, my Lord, I can tell you it was a lucky day for myself and family when we went on board the steamer that took us out of Scotland and landed us in this fine country. I have three sons, and they own 160 acres of land each. I own 160 acres myself; making a total of 640 acres. I and my sons work together on the land, and we have about 90 acres under crop. We have three yoke of oxen, several cows, and young stock.

"We have about 900 bushels of wheat this season, and plenty oats, barley, potatoes, and vegetables. We will have 150 acres under crop next year. We are only three miles from timber at Pelican Lake. There is any amount of fish in the lake, and a large quantity of ducks and geese, and turkeys and prairie chickens on the wheat fields; when the season for shooting comes in, we can blaze away at them. We have no landlords, no old country gamekeepers to arrest us for shooting game. Our carriages, horses, &c., are free from taxation; we only pay \$30 a year taxes for the whole section of 640 acres. We all like this country. The soil is black vegetable loam from 18 to 24 inches deep, and a rich marly subsoil several feet deep, and a blue clay bottom. Several farmers have raised crops here of wheat for 10 years in succession without manure. I often think of our people in Scotland who are working all their lives for the landlords for just enough to keep soul and body together. Let them come to this country, where they can be free from the grasp of landlordism, and become the owners of an estate of 160 acres of good land as long as grass grows and water runs. We have plenty of room for them in this great North-West country, and I can now with confidence invite them all to come where they can make comfortable homes for themselves and their families."

The Earl at this point wished to hear of any drawbacks to the country.

"Very well, my son," said McLeod. "If I would tell you anything about the dark side, I would be telling you something I know nothing about, because it has been all the bright side with me since I came here. I am authorised to make this statement by the whole of the crofters in this settlement. When I first arrived at Killarney, I was offered \$2.50 a day for doing mason work, and the first job of mason work I did I got \$2.50 a day; I can now get \$3 a day, but I cannot leave my farm. There is plenty of work here for masons and man labourers, but I prefer to stick to my farm; and I can say that any

who will work and till his farm properly can make a good living here."

Moosomin Settlement.—The crofters who make up this settlement are from the estates of Lady Gordon Cathcart. In the year 1883, owing to the congested state of some parts of these estates, there was an offer made of £100 to the head of each family who desired to emigrate to the North-West. This sum was to be expended, along with the amount obtained by the sale of their farm stock, in their transport, and to enable them to begin life with some hope of success in their new homes. Fifty-six families availed themselves of the offer, 11 going out the first year, and 45 following the succeeding one. The money advanced was secured under the 39th clause of the Dominion Land Act. The location selected is near the town of Moosomin; the country around being rolling, or undulating, with gullies and creeks scattered about in its area. The soil is a good loam, and in many parts covered with scrub. Good bottom land, as well as water, is abundant. A country well adapted for mixed farming.

D. McDonald, South Uist :—

Has been fairly successful, but had a bad crop last year owing to drought. Has no complaint to make against the country. "I had 18 acres under crop last year, and will put in three more this season. I have two cows, four other cattle, and one team of oxen, and have got all the implements I require, self-binder included. I might go back to the old country, but would not stay there, as this is a healthy place, and a man is more independent. Besides, I have got a very good crop this year."

Farquhar Beaton, South Uist :—

Had very little money when he came to the country. Has now 100 acres under wheat, 30 head of cattle, 1 horse, all the implements, and a team of oxen. Has a tidy house and offices, and farms his land well. Would go back to the old country if he got a very good situation, but would not go back to farm.

J. Campbell, South Uist :—

"I have seven cattle, and 40 acres under wheat. I like the country, but would like to visit the old place." "Would you stay?" "Och! no, no." "Then you would not farm at home?" "Na, faith. I did not sow all my land this year. If I had done so, I would be rich."

McKinnon, South Uist, located at Red Jacket :—

"I sold 18 to 20 cattle this year, and have on hand 40 head more. I bought a pair of horses for 250 dollars. Seasons are changeable. I have about 80 acres under crop, and have a return of about 2,000 bushels wheat."

Any comment from me is unnecessary, as the preceding interviews, selected haphazard from my note-book, are sufficient evidence as to the present position and future prospects of the crofters. I may add that on inquiry I found that of the 18 families who left their homesteads, 13 would not take the locations selected for them by the officials in the vicinity of the others, but went in a body to the Leech Lake district and selected the land for themselves. Some of the lands are odd-numbered sections, and in consequence belonged to the Manitoba and North-Western Railway. The company at once gave

the sections to the Government, so that the crofters might homestead. These 13 families left this land of their own selection before they had occupied it 18 months. One of the 18 is dead; one works on the railway, but is to take up his homestead; the others have moved west.

On our way back from the North-West I met a delegate from Dakota who travelled over Manitoba with us. He informed me that he had just completed the purchase of 60 homesteads at Saltcoats, where settlers from Dakota were to migrate; this district being, he considered, the best selection he could make.

We now return *via* Portage-la-Prairie and join the Canadian Pacific. Passing on toward the west, we come to Brandon, the most important wheat market in the province. It has five grain elevators, one flour mill, and a saw-mill. The town lies up from the railway on a high bank, and, although only about six years old, is of a fair size, with a good many substantial buildings, containing a population of about 5,400. Near Brandon is the Government Experimental Farm. The farms in the district are excellent, and the soil well suited for wheat-growing. Leaving Brandon, we come to Wolseley, where we stopped on our return journey. We were driven out to Qu'Appelle Valley. The scenery is a considerable deal better than the land, as the latter is low-lying, and seems to have been the bottom of a recent river. Cultivation is tried here and there, with fair results. The land lying on the higher lands is fair loam, and suited for dairy and mixed farming.

Our next stop is at Regina, the capital of the North-West, visiting Indian Head on our way. Here is situated the North-West Experimental Farm, as also the famous Bell and Brassey Farms. The Bell Farm is a big undertaking—much too big for one man to carry out the work with economy. It is 13,000 acres in extent, and takes a ride of 27 miles to go round it. There are 1,600 acres under wheat this year, and Major Bell expects to put in 3,000 acres next year. The produce is about 25 bushels per acre, and the cost of production from \$4 to \$5 per acre. There is frequently 40 per cent. lost by frost, which might be saved to a considerable extent if the farm was divided into holdings of one-twentieth the size. One furrow outwards and another homewards is the half-day's work for a man and pair of horses. The climate is unsuitable; that is, it is too big a risk to have a grain farm pure and simple so far west and north, although mixed farming would leave money.

The Brassey Farm has just been started, and consists of 40,000 acres. A commencement has been made by establishing a fair lot of Clydesdale mares, the intention being to breed horses of greater bone and substance, which will soon be required for farm purposes. There is also a fair herd of cattle. The land is fair. Grain-growing is also to be taken up as time goes on.

Regina is situated on a level plain, the surrounding country being flat, and suitable for grazing sheep. We visited the exhibition there, and saw some extra good roots, potatoes being a very good show. There was also an excellent exhibit of butter, which would make it appear that dairy farming might be taken up with success. This is the

headquarters of the Mounted Police, many of whom were seen by us; they appear to be an efficient body of men.

We next make our way up the new line of railway to Prince Albert, which lies on the Saskatchewan River. We have here a great country, extending west by Battleford to Edmonton, well adapted for mixed farming, the land being very much similar to that in the vicinity of Indian Head, but rolling, with valleys and knolls covered with scrub, which affords good shelter for stock. Water is plentiful in most parts. While there, I visited a few farmers in the neighbourhood, and was well pleased with the general appearance of the country. Sheep are reared in this district, and considering the great extent of some of the prairie lands (200 miles), thousands might well take the place of the hundreds at present in the hands of a few ranchers. These run out on the prairie during summer, and feed on hay during winter. While visiting Mr. Plaxton I was shown some two-rowed barley grown by him; the best sample I have seen anywhere, either at home or in Canada. There can be no doubt this variety can be grown here. To make sure, I examined his stacks and found the sample obtained by rubbing out a few heads to be equally as good—fine, plump grain, well coloured, and fit for brewers. Until lately four-rowed barley—the “bere,” or “bigg,” of the North of Scotland—has been grown almost exclusively in Canada, there being a good market in the United States for this variety. Barley of a better quality can, however, be grown, and will find a ready sale in the markets of Great Britain. It is, therefore, simply a question of time when two-rowed barley will take the place of the inferior variety, as there can be no fear of it attaining full maturity in a climate where wheat can be grown.

All this district is as yet almost untouched in the way of settlement, so that there are great opportunities for farmers with some means to take up locations in the district. On our return we passed through a great extent of very diversified country; plain, valley, mountain, and timber following in succession until we again arrive at Regina, and away west towards Moosejaw, when we enter upon the great alkali plain, which is the northern portion of the American desert, or “bad lands” of the States. How these plains are to be economised has often been the subject of discussion amongst the members of the delegation. The grazing of sheep has been suggested; but it must be kept in view that sheep grazing upon alkaline lands are subject to a disease known as “pining,” or “vanquish.” This we know to be the fact in this country, as seen where sheep are kept on the granite formation, especially during drought. The disease is said to be due to alkaline poisoning (potash or soda), and the only remedy seems to be a change to a district lying over a different formation.

Sheep might be grazed during a part of the year on these plains, but care and judgment would be necessary, so that a change of ground would be given at the proper time. As to cultivation, there can be no great prospect until all the best lands are taken up, and the margin for cultivation thereby increased.

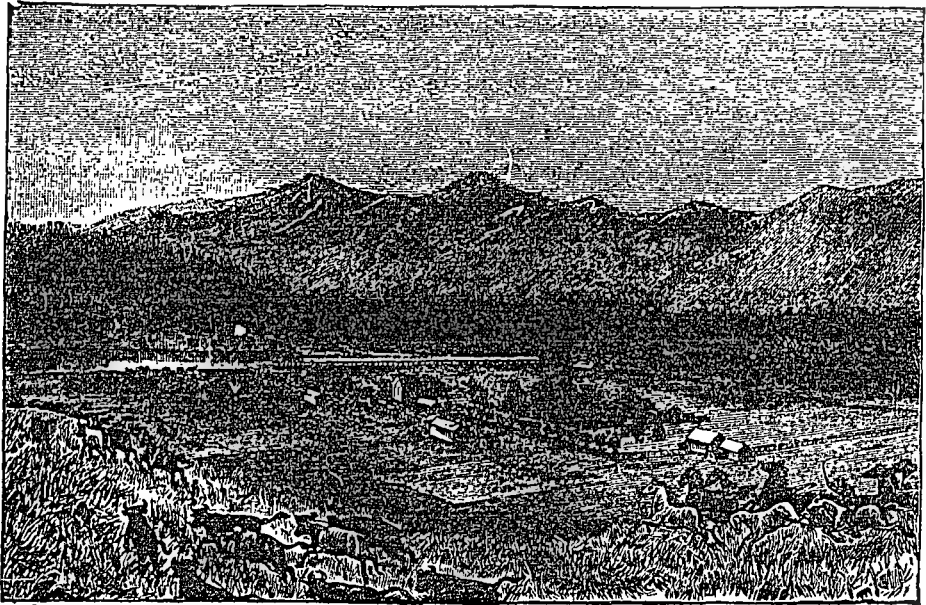
Proceeding along the line, we arrive at Dunmore, the centre of the 11 farms of 10,000 acres each belonging to the Canadian Colonisation

and Coal Company, formerly Sir John Kaye Lister's farms. These extend along the line from the vicinity of Regina until Calgary is reached. "There are 10,000 acres under crop this year, the greater bulk being oats and barley. Oats are sown in May. Hot winds and drought did a deal of damage. Where wheat was sown the produce was 25 bushels per acre. Oats sell at 2s. 6d. per bushel if kept till spring. When damaged by frost the crop is converted into winter fodder, so that the loss is lessened. It is important to get the ploughing done in the fall, as the dry weather affects the land in spring. In future we shall only grow crops for winter feed. There are 7,000 to 8,000 cattle, 400 mares, and 23,000 sheep on the farms. The best mares are heavy draught ones, obtained from Ontario, which are put to stallions imported from the South of Scotland (Clydes). The horses which did best last year were those which were allowed to run out all winter on the prairie. These were found in spring to be shaggy in the coat and quite fat. Have sold lately mare and foal for £60, and can get £60 for a team of horses. Farmers here grudge the fees for imported stallions, and use scrub horses instead. We have imported a large number of Cheviot and Leicester rams; the ewes are Merino. Cheviot rams take the lead for crossing, Shropshire second, and Leicester the third place. Black-faced sheep would do well here, as they are hardy, and would not require winter shelter. We have sheep-sheds or other shelter for the winter. 90 per cent. of lambs are dropped; and we have killed them when weaned 40 lbs., dressed. We kill 60 steers and 150 sheep per month to supply our customers and the dining cars of the Canadian Pacific Railway. Last winter we did not use any hay. Sheep do well on the prairies up till September, when they are taken to winter quarters; one man can manage 2,000, with assistance at lambing and during storms. Vermin and scab do not appear amongst the flock here. Merino ewes cost 11s. each, and the wool pays all costs of production. We use Shorthorn and Polled Angus bulls, and have plenty of calves, which are doing well. Use Galloway and Angus bulls to cross with the scrub cow." Such is the outline given us by Mr. Stone, the manager of the company, and it gives a fair idea of farming on a large scale in the North-West. He arranged a round-up of horses near the railway line, and from what we saw we were of opinion that the great bulk of the young horses were just those needed for the country.

At last Calgary is reached—a nice town, lying at the junction of the Bow and Elbow Rivers. It lies in a hollow, and is surrounded on three sides by high-lying lands. Five of the delegates arranged with Messrs. Stone and Alexander to drive out south and see some of the ranches in that direction.

In our drive, some 40 miles out, we passed through perhaps the best ranching country in North America; the various requirements necessary for this branch being present at every turn—good water, good shelter, good hay lands, and the whole climate of the district tempered during the season by the warm breezes of the chinook winds. But not only to the large rancher is this district suitable, but the smaller capitalists can make a larger return for their money than even

those with more capital can obtain. 500 head being more readily managed than 5,000, the loss is diminished; and this loss often means a large profit if it can be averted or mitigated. We passed a good

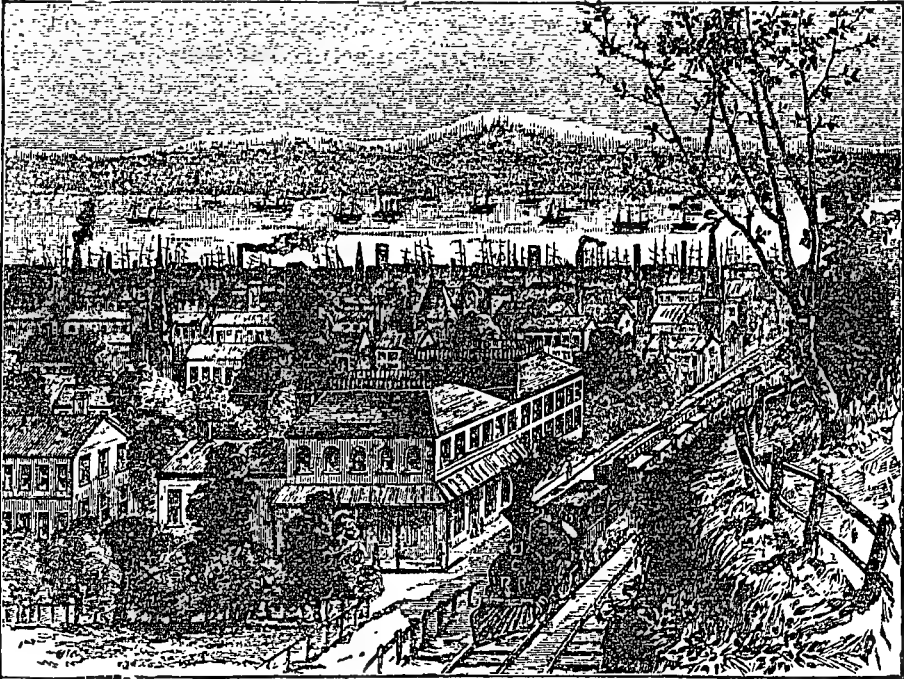


RANCH SCENE, ALBERTA.

many houses of these settlers on the way, all of whom seemed to be prospering. Coming to High River Ranch, we stayed the night, returning to Calgary next day. There are 900 horses on this ranch. On the average of seasons 250 foals are dropped, being 90 per cent. The loss last year was 10 foals and 3 mares. On another ranch 300 horses were kept, the mares being crossed with Clyde and Percheron stallions. 85 per cent. foals dropped. No hay given during winter; no loss, and horses look as well in spring as in the fall. A neighbour had eight steers which ran in the open all winter and came in during spring fit for the butcher. Another told us 80 head of cattle ran out all winter, and were found in good condition in spring. These experiences are sufficient evidence as to the character of the district.

Leaving Calgary, we now approach the Rocky Mountains, and come into contact with one of nature's greatest and grandest works. Hour after hour is passed in which the most magnificent scenery meets the eye, now abrupt, then undulating, again opening up in a vast vista, in which are seen mountain overreaching mountain, until the mighty Selkirks are seen overtopping the lower ranges. It would require the pen of the poet or the pencil of the artist to even faintly depict it, and it is therefore outside the province of the rustic pen, so let us resume. Looking at these freaks of nature from an agricultural standpoint, they

are not in it; so we shall pass Banff, with its springs, and pass on to British Columbia, which has been compared to a "sea of mountains."



VANCOUVER.

British Columbia.—The main feature of the province is the immense forests it contains. So great are these that it has been said, "Scotland might be buried in one of them and never be seen." This is, indeed, a land of great trees, rivers teeming with fish, and mountains containing vast mineral deposits. How to develop these are the problems which are being daily brought under the notice of the Canadian public. The climate of the province in the south is mild and humid; further north the summer is shorter, and winter longer and more variable. All kinds of fruit are grown to near perfection in the open air. Agricultural land is not so plentiful as in the provinces east of the Rocky Mountains, the country being nearly all covered with heavy timber. We were told of great stretches of lands, lying between the Cascade and the Rocky Mountains, at Spallumcheen, Okanagan Valley, and Kootenay; but the difficulties of transport will affect their development for some time. While at New Westminster we visited the "Delta," and from Vancouver City, Lulu Island. These are made up of alluvial deposits, and lie low, dyking having to be done in many parts of Lulu Island. As the canning of fruit (a beginning being already made) becomes developed, all this land will be converted into fruit gardens. The clearing of the forests for the purpose of growing

wheat or other farm produce would not pay at present prices, as the cost would be very heavy. When, however, the price for lumber increases, so that the settler can sell his trees instead of burning them, the clearance of the forest will become universal, as the climate and soil would simply warm the heart of every good farmer. When on a visit to New Westminster, we inspected the saw-mills, which are very extensive, the chief markets for lumber and manufactured articles being Japan, Australia, &c. As this is one of the centres of the fishing industry, and as this subject is of great interest to the fishermen all over the North of Scotland, I here add a few notes obtained from Mr. Mowat, Inspector of Fisheries. Canned salmon can be landed in London with a profit at $1\frac{1}{2}$ d. per lb. Each fish weighs on an average 10 lbs. to 20 lbs., and costs on an average 6d. on the Fraser River. Men are engaged at from \$2 to $\$2\frac{1}{2}$ per day. A few of the fishermen, who own their boats and nets, get from $4\frac{1}{2}$ d. to 6d. per fish they land; others work on the half system—that is, the cannery supplies the boat and nets, and get half the fish caught, and pay $4\frac{1}{2}$ d. per fish for the other half. Fishing commences during the first week of July, and continues for six weeks.

The varieties taken are the quinnat, or spring fish, the saw-quai, or redfish, and the cohoe, silver or fall fish. When the fishermen are through with the salmon fishing, white or deep-sea fishing is taken up. The creeks and rivers along the coast and the deep sea are teeming with every kind of fish. Fishermen make from £200 to £250 during the season. The salmon fishing commenced in the Columbia River in 1865, and reached in 1873 to a take of 60,000,000 lbs. of salmon; afterwards this take fell off to about half, the river being over-fished. The Fraser, the Naas, and the Skeena are, however, the chief salmon fishing rivers in British Columbia, and, to obviate the possibility of their being over-fished, the Dominion Government have established a hatchery near the Fraser River, out of which 7,000,000 salmon fry are sent yearly into those rivers.

There is a most valuable fish, called the cole, or skil, caught off the coast of Vancouver and Queen Charlotte's Island, in from 150 to 200 fathoms, which is of great value on account of the oil obtained from it, and the fine flavour of the fish.

These fish are caught by line and hooks in great numbers, and are likely to take the place of mackerel in the American markets. But these are not by any means the only kind, as the whole coast away towards the North literally swarms with all kinds of white fish. This industry only awaits development. To me it appears that British Columbia offers great inducements to our Northern and West Coast fishermen to settle, as fishing and farming could be combined here with some hope of success. New markets will be opened up when the mining industry is begun in earnest. There can be no doubt in the mind of anyone who is acquainted with the circumstances at home and those in British Columbia, that our fishing population in great numbers would find a congenial home in this province, and by ordinary care and industry place themselves in a very short time in an infinitely better position than ever they could do at home.

When one considers the great mineral resources of British Columbia, we may say that, except gold and coal, this great source of wealth is practically untouched. The iron, copper, silver, lead, &c., which the mountain ranges and river basins are known to contain will yet be explored and opened up. When this occurs, British Columbia will be looked upon as one of the wealthiest provinces in the Dominion. Capital has already begun to flow in this direction, and judging from what the Columbians have already done, a very few years will mark the rise and progress of this most pleasant province.

Vancouver Island lies about 80 miles from the mainland, and contains the capital city. The chief agricultural part lies south-east — of no great extent. Although good tracts of land are scattered throughout the island, still the whole place is heavily timbered, and would require money to clear it. At Nanaimo coal-mining is extensively carried on, much of it finding its way across the Pacific, down to California, &c.

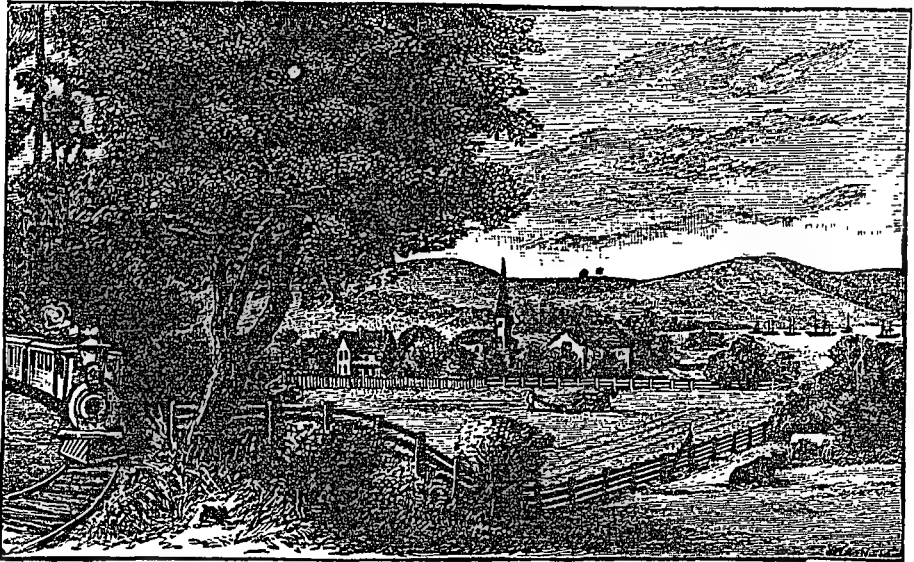
In a big country like Canada, where soil, climate, and surroundings are so varied, it is often a most difficult matter for the ordinary farmer to choose a location, and, when chosen, to decide what kind of crops will be suitable for the climate and soil. In a new country, where the population is thinly spread over the land, experiments to find out the proper kind of crop to sow can hardly be undertaken by a new settler. The Dominion Government, keeping in view these circumstances, have come to the relief of the farmers of the country by the establishment of an Experimental Farm in each province — Nappan for



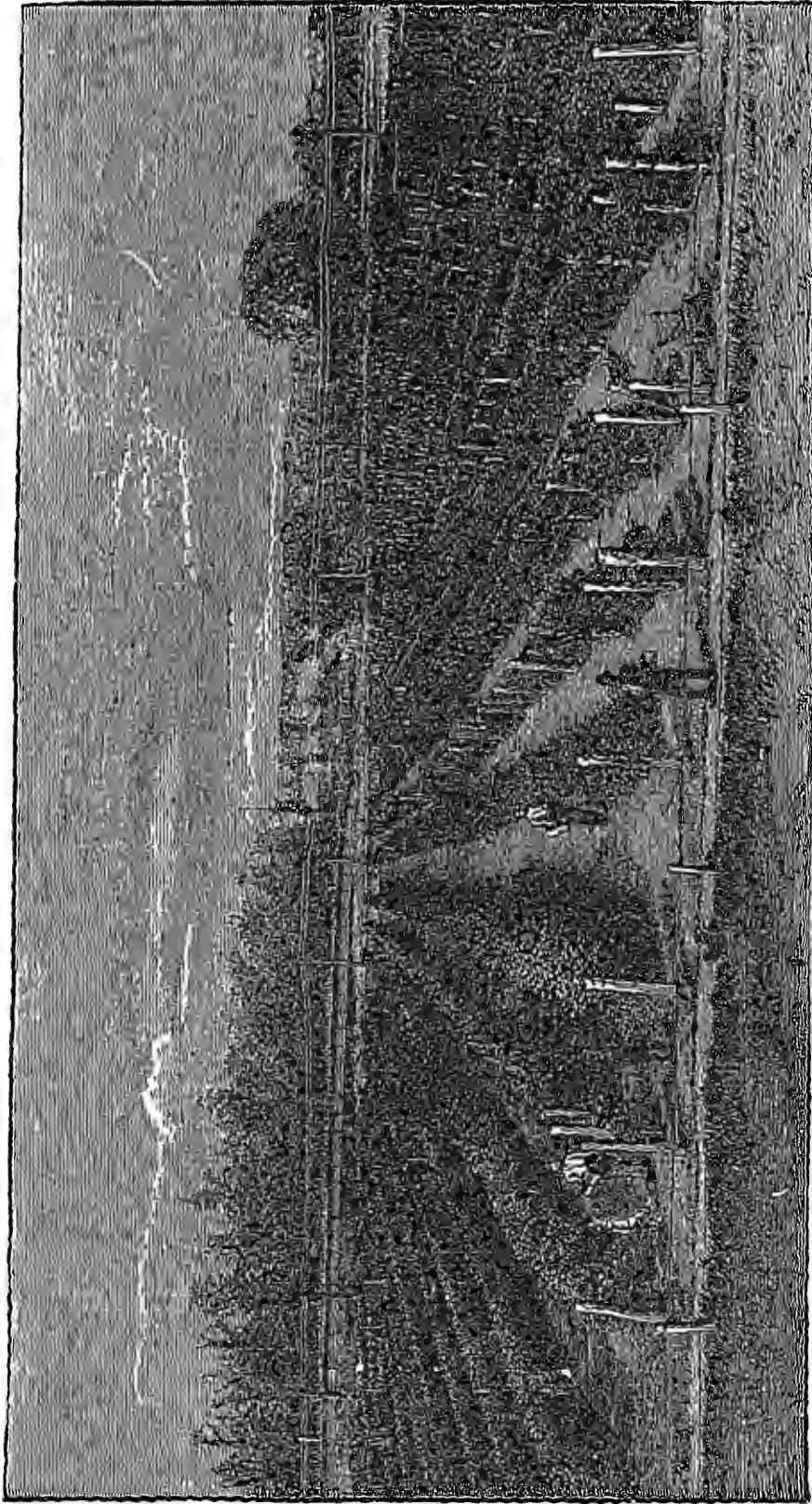
EXPERIMENTAL FARM, OTTAWA.

the Maritime Provinces, Ottawa for Quebec and Ontario, Brandon for Manitoba, Indian Head for the North-West, and Agassiz for British Columbia. From the central farm at Ottawa, in charge of Professor Saunders, the others take the cue. Here crops, flocks and herds, pigs and poultry, all undergo a most crucial test as to their various qualities, and adaptability for the country. When a success has been made at Ottawa, it is further tested at each of the farms, and adopted in the locality where it attains its greatest maturity.

From what has been written, it may be inferred which parts I consider the most favoured and suitable for the various degrees of the tillers of the soil. I can only add that no man will regret going to Canada to begin life there, provided he makes up his mind to work, and exercises ordinary caution. And I conclude by giving it the highest praise a man can give—viz., were it possible for me to break all the ties and change the responsibilities which surround me here, I would go to Canada and stay there.



IMPROVED FARM, NOVA SCOTIA.



AN ONTARIO VINEYARD AT EAST HAMILTON.

THE REPORT OF MR. JOHN SPEIR,**Newton Farm, Newton, Glasgow.**

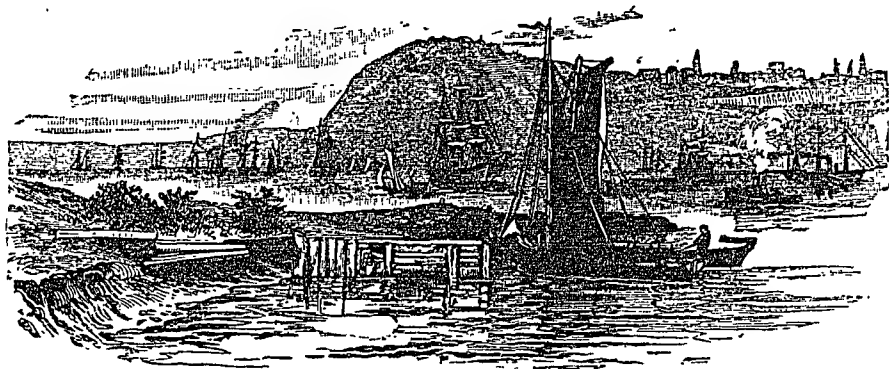
I HAD the honour of being appointed to represent the South of Scotland as one of the farmer delegates invited by the Canadian Government to visit the Dominion to report on its agricultural resources, and, leaving Glasgow on 20th August, I sailed from Liverpool the following day in one of the Allan Line steamers. After a rather rough passage I landed at Quebec, and, having had a look round it, proceeded to Ottawa to see the Minister of Agriculture (Hon. John Carling). Here I found I was the first to arrive, and while I waited on the others, I twice visited the Government Experimental Farm there, the different industries carried on at Ottawa and Montreal, and the country around these cities and Toronto. At the latter city I visited Canada's great Industrial Exhibition, and made excursions into the districts around Niagara, Hamilton, and Guelph, where I visited the Ontario Government Experimental Farm. The last of the delegates having turned up at Toronto, a special sleeping car was hired, and we all proceeded by the Grand Trunk Railway to North Bay, and thence by the Canadian Pacific Railway to Winnipeg. From Winnipeg excursions were made both north and south along the Red River; then the South Western Railway was followed to Carman, which is a branch terminus, and to Glenboro', where the railway just now ends. From there a drive was made to the Scotch crofter settlement around Pelican Lake, and from thence north to Brandon. A day was spent driving round the farms about Brandon, and visiting the Dominion Government Experimental Farm there, after which we went on to Rapid City, and from it by rail to Minnedosa, then up the Manitoba and North Western Railway to Saltcoats, the present terminus. Around Saltcoats we had two days' driving, one south and the other north, and on the latter day we visited the most of the families composing the crofter settlement there. Leaving Saltcoats we went down the railway to Binscarth, then north on a branch line to Russell, which is the present terminus. Here we visited Dr. Barnardo's Home for Boys, retraced our steps to Binscarth, visited the Stock Breeding Farm of the Scottish Ontario Land Company there, then passed on to Birtle, saw the Agricultural Show being held that day, had a drive round the district, and then passed on to Neepawa. Here another day was passed seeing the farms and interviewing the farmers, after which we moved on to Portage-la-Prairie, where another day was spent seeing the district and people.

Here we again joined the Canadian Pacific Railway, which was followed to Indian Head, where we examined the Dominion Government Experimental Farm, the Bell Farm, and the Brassey Farm. Leaving Indian Head, we went on to Regina, where a short stay was made, and thence by a new branch line just finished we passed on to Prince Albert. Having had a day's driving round Prince Albert, we again returned to Regina, where an exhibition of roots, vegetables, &c.,

was being held, and which we visited. The day following a move was made westward to Medicine Hat, where a short stop was made to visit a show of roots, grains, &c., which was being held there. Still going westward, another short stop was made at Crane Lake, to view a large breeding stud of horses belonging to the Canadian Agricultural Company; after which a halt was not made till Calgary was reached. Around Calgary three days were spent visiting cattle, horse, and sheep ranches, mixed farms, and an exhibition of cattle, horses, sheep, grain, &c. Leaving Calgary, a stop was made for a day at Banff, where there are hot sulphur springs, after which we went on to New Westminster, which is the end of a short branch line, 18 miles from the terminus of the railway on the Pacific coast. From here a short sail was taken up the Fraser River, then down to Ladner's Landing, during which several of the salmon canneries were visited. From the landing I drove over to Boundary Bay, visiting one fruit and vegetable farm, one stock farm, and several mixed farms on the way. Returning from Boundary Bay, I crossed the Fraser River in one of the large and handsome passenger and freight steamers, to Stevenson, from which I drove across Lulu Island to Vancouver, where I joined the rest of the company. After having had a look round Vancouver and its vicinity, we took steamer for Nanaimo, on Vancouver Island. Here I visited and descended one of the pits of the Vancouver Coal Company, and then took rail to Victoria. Two days and a half were spent in and around the district north of Victoria, after which we returned per steamer to Vancouver, and from thence per rail to New Westminster. Here we joined the regular up-river steamer, which conveyed us to Sumass, from which we drove through the Chilliwack Valley to Popcum, where we entered Indian canoes, and sailed three miles down the river to opposite Agassiz railway station, where we landed, and after hurriedly visiting the Dominion Government Experimental Farm there, again joined the eastward-bound train. On the way back to Winnipeg, some of the party dropped off at Calgary, Regina, and Brandon, and I went off and passed a day around Wolseley, and another at Moosomin, where I visited a number of the Lady Cathcart crofters; after which I went on to Winnipeg. From there I returned round the south side of the lakes, *via* St. Paul, Minneapolis, and Chicago, to Port Huron, entering Ontario at the south-west corner. From this I went to London, thence north, *via* Clinton, Blythe, and Wingham, to Kincardine. North of Kincardine I spent a portion of one day, and then drove south about 12 miles, and from there on to Wingham, Palmerston, Guelph, and Toronto, where I again joined the other delegates. The following day was spent driving through the country about 12 or 15 miles north of Toronto, where, among others, we visited Mr. Russell's excellent stock of Shorthorns and Clydesdales. From Toronto we went to Ottawa, and then on to Montreal, from which I drove out to see the very good stocks of Ayrshires belonging to Messrs. Brown and Drummond. The following day we went by rail to Quebec, where we joined the Allan Line steamer "Parisian," and, after a fairly good passage of nine days, arrived at Liverpool on 22nd November, and I got home rather late that night.

SOIL AND GENERAL APPEARANCE.

Quebec.—Much of the land of the Province of Quebec is rather disappointing, a large extent of it being thin and poor, and, where deep enough, in many cases it is very damp, the whole province evidently being much in need of under-draining. Round Ottawa and Montreal there are many good farms, but the bulk of the land even there is shallow, the rock in many cases lying quite close to the surface. Market-gardening and fruit cultivation are carried on to a considerable extent a few miles outside of Montreal, the bulk of which is done by the French Canadians, and, although as a rule the farming of the province is not up to the standard of British ideas, still that around Montreal does credit to those engaged in it. Of the flat or good land of Quebec, little is now carrying timber, but recently cleared fields, with the blackened stumps still standing, are occasionally met with. These show very vividly, the labour which the first settlers must have spent in clearing their farms.



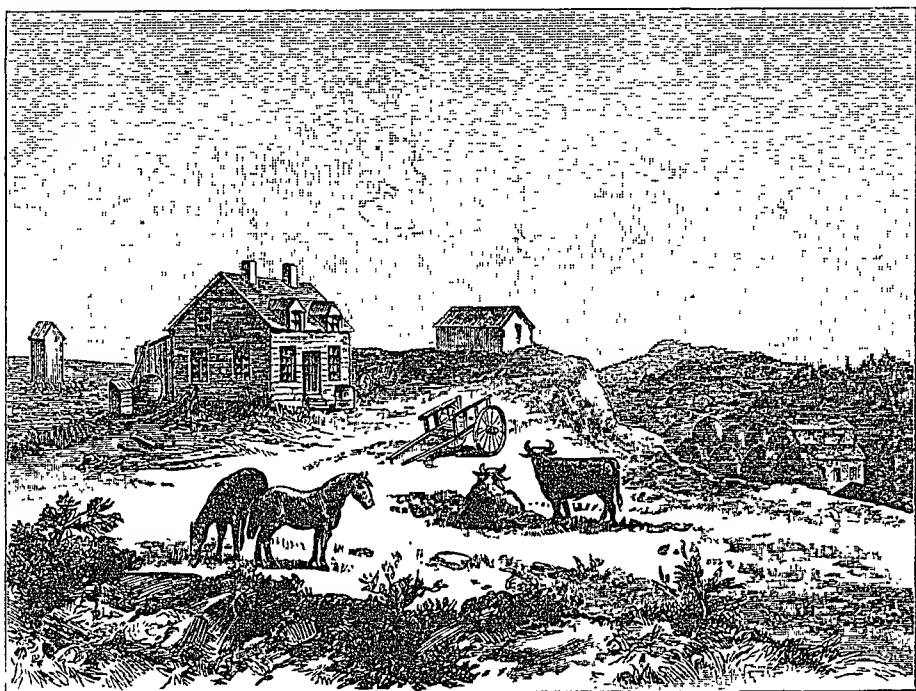
VIEW OF QUEBEC.

Ontario.—Unless in the North, the greater bulk of the Province of Ontario is all first-class land, and much of it really of a very superior quality. In a general way, it may be said that the land along the lakes is all good, as is also that north and north-east of Toronto; while a little west of that city it is rather indifferent. At and near Guelph, the land becomes fairly good again, and from there south by Hamilton, Niagara, east by London, and north through County Huron, the soil is all that can be desired, and the farming generally very good. The farm dwelling-houses are usually built of wood (but several here and there are of brick and stone), as are also the farm buildings, most of which have a neat and clean appearance. The bulk of the farms are 100 acres in extent, but a few are to be found 200 and 300 acres, and even more. The fields usually contain about 10 acres, the principal fence being the rail one.

Manitoba.—The fertility of the soil of the Prairie Province, as it is called, can scarcely be surpassed by that of any other country. The whole region, from the Red River to the Rocky Mountains, appears to have been at comparatively recent times, the bed of an immense lake. The greater part of this vast area, which must be travelled over to be realised,

is underlain by deep beds of a greyish-white clay, on the top of which are from 9 to 24 inches of black vegetable mould. The greater portion of this mould is the remains of former generations of plants, a considerable portion of the richness of which is undoubtedly due to the ashes left by the repeated and long-continued burning of the prairie grass. These prairies have for generations been annually devastated by fire, and from the continued accumulation of ash, no one need be surprised at the richness of the soil, more particularly when it is combined with such a large quantity of vegetable matter as this soil contains. In the southern and middle districts of this province, are to be found millions of acres of the finest farming land to be met with anywhere, and these same plains produce a quality of wheat which sells in Britain higher than that of any other country. Unless in the north, the land as a rule is generally flat, with very few interruptions in the way of water-courses or hills, so that plough furrows may often be run for mile after mile without any interruption. To an Old Country farmer this seems incredible, and he cannot understand how the rain and melted snow are carried off without rivers. In Manitoba the rainfall is very light, and the air is so dry that the greater portion of it is sucked up by the soil and air, and very little of it indeed passes off by the few rivers which the country contains.

Northern Manitoba is more rolling or hillocky, and is better watered and timbered than the middle or southern portions of the province. In many districts the land is equally as good, but, lying



A FARM-HOUSE IN THE NORTH-WEST TERRITORIES.
(Drawn by Colonel Fane.)

farther north and at a considerably higher altitude, the summer is not so long, and autumn frosts are said to be more frequent.

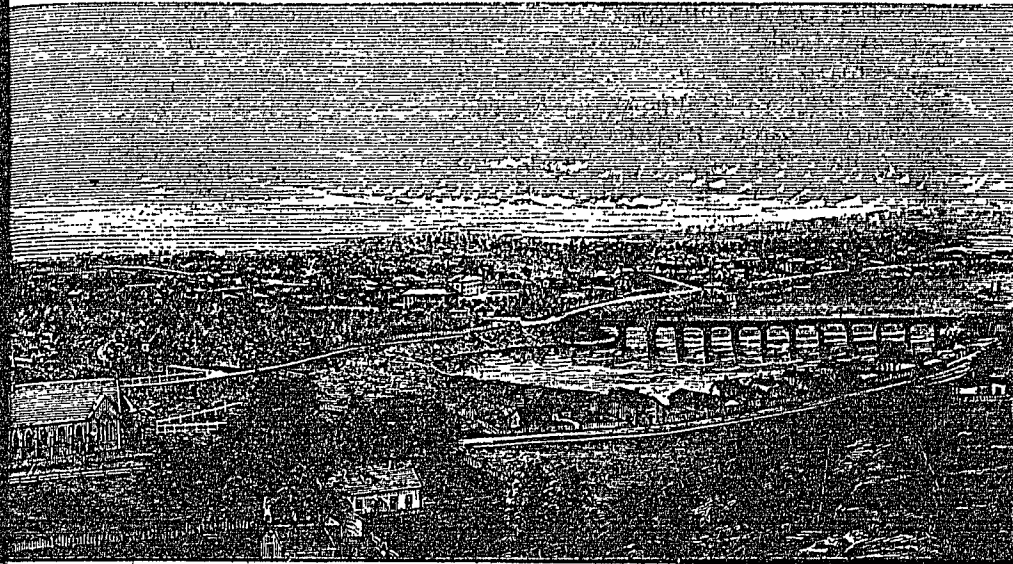
Assiniboia.—This territory extends from near Moosomin to the junction of the Bow and South Saskatchewan Rivers, and goes about as far north of the Canadian Pacific Railway, as the United States boundary is south of it. West of Indian Head the depth of black soil becomes less, until about Regina it is only from 4 to 6 inches thick, with a rich clay soil under. Northward from Regina the black mould increases, until it is about the same depth as in Manitoba, before the northern limits of the territory is reached. Westward from Regina for some distance the land is much the same as it is around the capital; but as the western boundary is approached it is not so good, and wheat-growing on an extensive scale becomes more risky.

Saskatchewan.—This territory is the one north of Assiniboia. It is the same width as the latter, and extends as far north as settlement has yet gone. The Saskatchewan River runs across it from west to east, and forms an excellent waterway for several months of the year from Lake Winnipeg westwards, and on which ply several steamers of considerable size. From the south of the territory to Prince Albert there are vast stretches of excellent land, generally well watered, and most of it with sufficient timber for fuel and fencing. In the immediate vicinity of the capital, the land is very rolling, but a few miles south it becomes more level and better suited for cultivation. The soil is deep and black, and being generally well watered and sheltered, appears more suited by nature for mixed farming than grain-growing. North of Prince Albert, little has been done in the way of settlement, but all along the banks of the river from Prince Albert to Edmonton, in Alberta, a considerable area of land has been taken up.

Alberta.—All the country between Assiniboia and Saskatchewan on the one side and the Rocky Mountains on the other is called Alberta. It is the great ranching territory of the Dominion, the bulk of the land being as yet more given up to grazing than cropping. As a rule, the surface is not so flat as either Assiniboia or Manitoba, but, like the former, a great extent of it is underlain by immense beds of clay, through which the rivers have cut deep and wide tracks. Calgary, the capital, lies in one of these valleys, 150 to 200 feet or more below the level of the surrounding country. The soil of Alberta is not so rich as Manitoba, but it has equally as good a summer climate, and certainly a very much better winter one; and judging from these, and my own observations, I see no reason why Alberta should not be as good a general farming country as any of the others, and probably better than some of them.

British Columbia.—All the land between the Rocky Mountains on the east, and the Pacific Ocean on the west, and north of the United States boundary, is comprised in the Province of British Columbia. Very much of it is mountainous, but along the river valleys and at the mouth of the Frazer River, and between the vast mountain chains, there are immense tracts of excellent land, suitable for any purpose to which a farmer may wish to put it. Some of the large valleys in the mountains appear to belong to the same formation as the prairie lands of Manitoba,

while others seem to be even of a later date. Along the river sides and at the mouths of the Fraser River, all the land is alluvial. The delta lands at the mouth of the Fraser are about 30 or 40 miles wide, and triangular



CITY OF VICTORIA.

in shape. The level of the land is only a very little above that of the sea, and up to quite a recent date it was turned to little account other than to graze cattle on or to cut hay from. Now however, these lands are being dyked and drained, similarly to the reclaimed lands of Holland, and they are likely soon to be, if they are not already, the most valuable agricultural lands in the Dominion. Over all the province trees appear to grow with astonishing luxuriance, and everywhere immense specimens are to be found, while others of more moderate proportions clothe the mountains from the sea level to near the snow line.

CLIMATE.

Quebec and Ontario.—As far as climate is concerned, both provinces may be, practically speaking, considered as one. Of the two, Quebec has the heaviest rainfall, while the winters are also both a little longer and more severe. In both provinces tomatoes do well in the open air, and in the south of Ontario vines and peaches are extensively cultivated outside. The average rainfall for over 20 years is about 25 inches, varying from slightly under 20 to over 40 inches; and while the minimum winter temperature is seldom below 12° F. below zero, the maximum summer temperature is seldom over 93° F. Frost usually sets in about the middle or end of November, and continues on till the beginning or middle of April. The average number of wet days per annum in Ontario is 82.2, and in Quebec is 95.5.

Manitoba and the North-West Territories.—In the main, the climate of all the North-West may be considered as alike, although, in minor particulars, some districts often differ much from each

other. In Manitoba and the North-West Territories, elevation above the sea and distance north does not always indicate a lower summer temperature, or a more severe winter, as is commonly



A VIEW IN STANLEY PARK, VANCOUVER.

supposed, for at Winnipeg, which is 733 feet above sea level, and 135 feet above Lake Superior, the winter cold is, if anything, more intense than further west, near the Rocky Mountains, where the land is from 3,000 feet to 4,000 above sea level. In the wheat belt of Manitoba, with a difference of elevation of about 1,000 feet from the one side to the other, the winter *minimum* temperature is about -30° to -35° F., while in Assiniboia, which is from 1,000 to 2,000 feet higher, the *minimum* winter temperature appears to run from -25° to -30° F. and in Alberta, which is about another 1,000 feet higher, the *minimum* winter temperature runs from -20° to -23° F. The *minimum* temperatures recorded during winter at Calgary and Banff are thus often 10° F. warmer than at Winnipeg, although the former is 3,388 feet and the latter 4,500 feet above sea level, while Winnipeg

is only 733 above sea level. Even at Edmonton, which is nearly 200 miles due north of Calgary, the *minimum* of winter is much less than at Winnipeg; so that strangers unacquainted with the country, its elevation or meteorology, should not fancy that because any district lies farther north or at a higher elevation, it of necessity must be colder, for in these territories such is not the case.

Contrary to popular belief as are the facts with regard to the winter temperature, they are no better in summer. Although the greater part of Manitoba is 350 miles farther north than Ontario, it is generally hotter there during June and July than in Ontario; but people who know both provinces well, say that owing to the dryer air of Manitoba, they feel the heat there while working less oppressive than in Ontario. During summer the thermometer in Manitoba often goes over 100° F.; in Alberta, only occasionally; while in Ontario—a long distance farther south—it very seldom gets over 93° F.

The average *maximum* temperature during the past four years, beginning with 1887, for the months of May, June, July, and August, for several towns in the same latitude, is as follows:—

Alberta	...	...	...	...	83·6° F.
Assiniboia	...	...	...	...	88·7° F.
Manitoba	...	...	...	...	88·9° F.

The *mean* temperatures for the same months, towns, and years is as follows:—

Alberta	...	...	...	...	55·4° F.
Assiniboia	...	...	...	...	60·8° F.
Manitoba	...	...	...	...	57·9° F.

The *minimum* temperatures for the same towns and years for the months of December, January, February, and March, are as follows:—

Alberta	...	...	...	...	— 21·0° F.
Assiniboia	...	...	...	...	— 29·1° F.
Manitoba	...	...	...	...	— 33·5° F.

The *mean* temperatures for the same towns, months, and years are as follows:—

Alberta	...	...	...	...	15·5° F.
Assiniboia	...	...	...	...	10·0° F.
Manitoba	...	...	...	...	2·4° F.

The rainfall—which is such an important factor in the welfare of every country—in Assiniboia is too light to admit of the country producing the crops it might do if it was a little more. The rainfall of the whole of the North-West is rather peculiar, and deserves special attention, as in average years from one-fourth to one-fifth of the total falls in June. May and July are also usually heavy, and combined often equal June. May, June, and July, being the principal growing months, it follows that if the crops are well supplied with moisture, then their well-being is secured, as they require little at any time else. If 3 inches of rain or over fall in June, the crops are almost sure to be good; if 2 inches or less, they generally suffer from drought. Were the country better wooded, the probability is the rainfall would be greater, for past experience in other countries appears to show that the presence or absence of timber will materially increase or decrease the rainfall of a country, all other things remaining the same. Whether or not cultivation will have the same effect no one knows, and as the opportunity is now afforded of finding exactly what the climatic conditions are, I am inclined to believe that it would be

for the best interests of the country, if the number of meteorological stations were doubled or trebled, as a few years hence the information may be desired, and it may then be impossible to get it. The whole instruments necessary would be a self-registering *minimum* and *maximum* thermometer and rain-gauge, and the keeping of the register of which might easily be done by any person of ordinary intelligence. This duty might well be entrusted to the police or railway agents in each district, both being persons likely always to be on duty. The rainfall of Manitoba for an average of 15 years is about 16 inches, and the average number of wet days 57 per annum.

British Columbia.—The range of the thermometer between the summer and winter temperature is much less in British Columbia than in any other portion of Canada, it being neither so hot in summer nor so cold in winter as the other provinces. The rainfall, although fairly constant for those places where a record has been kept, varies very much in one place from another, as is usually the case in any country where there are low plains and high mountains. At Victoria, the capital, the average rainfall for eight years has been fully 27 inches, which has fallen on an average on 84 days, principally during the autumn, winter, and spring months. At New Westminster, the average rainfall for 12 years is 58.5 inches, with an average of about 150 wet days. The thermometer rarely falls below zero, the winters being comparatively mild and short, while the *maximum* summer temperature scarcely ever exceeds 90° F.

General Health of Canada.—In the matter of health, few countries compare so favourably as Canada, the death-rate being very low. It is not subject to fever and ague, or any of the other diseases peculiar to most warm countries. The variation between the summer and winter temperature, and dry atmosphere, appear to alternately convey new life and vigour to the inhabitants. In Canada the deaths during childhood are very few compared to Britain, and the young are everywhere numerous and healthy.

Government Experimental Farms.—Land and agriculture are the mainstays of Canada, and her Government very wisely instituted a Department of Agriculture, with a Minister to look after its affairs, long before our Government had anything of the kind. In connection with the Department of Agriculture, the Dominion Government have experimental farms at Ottawa, Nappan, Brandon, Indian Head, and Agassiz, while the Provincial Government of Ontario maintain one themselves at Guelph. The Guelph farm is also an agricultural school of the highest class, managed by the best teachers, and furnished with the best apparatus the country can produce. What is more, there is always a good supply of pupils, and the teaching imparted at this school cannot but have a very good effect on the future farmers of Canada.

At the Dominion Experimental Farms, new plants are tested and propagated, methods of cultivation are tried, breeds of animals for milk, meat, or wool are continually having their good or bad points demonstrated, while fruits, vegetables, grasses, &c., are subjected to every test that can be thought of. Animal and plant diseases also

receive attention. Besides a general superintendent, there are specialists in chemistry, botany, entomology, horticulture, and poultry; so that if the farmers of Canada do not prosper, they at least cannot blame the Government for not looking after their interest. The work of each season at the different stations is published and forwarded to all who desire copies.

Cost of Land.—In Ontario, farms in ordinary cultivation and full working order can always be purchased in any district at almost any time, for Canadians are ever ready to sell, at a moment's notice, to any suitable purchaser. The price, of course, varies with the land, buildings, fences, location, &c., and any figures given must be looked on as only approximate. In the agricultural statistics published by the Government, the average for Ontario for six years is as follows:—

					£	s.	d.	
Land and buildings...	...	...	...	...	7	18	0	per acre.
Implements, &c. ...	...	...	...	...	0	9	6	„
Stock... ..	...	...	...	...	1	0	0	„
Total					£9	7	6	„

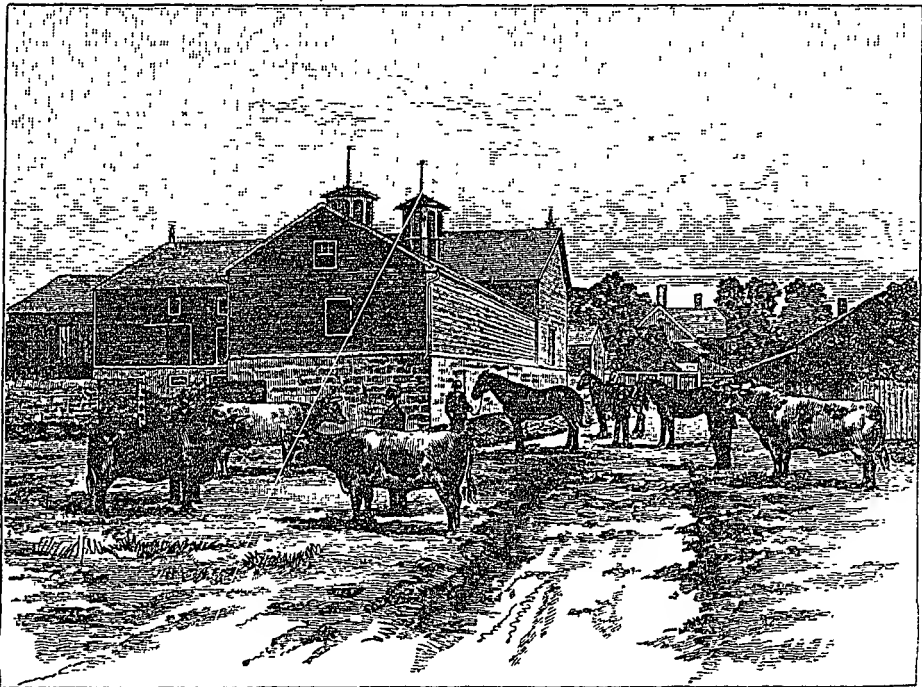
Within 10 to 15 miles of Toronto I found land changing hands at from £7 to £20 per acre; around Guelph £8 would be about the average; in Counties Middlesex, Huron, &c., from £8 to £12 was asked; whilst in the fruit districts around Hamilton and Niagara the figures were very much higher. The leased land of Ontario averages 13 per cent. of the whole; the present average rent for cleared land being from 11s. to 12s. per acre. During the last twelve years ordinary agricultural land in Ontario has receded in value from 15 to 25 per cent., owing, among other causes, to the movement of the farmers and their sons to the new lands of the North-West, where each member of the family could start farming with much less capital than in Ontario. It is, however, difficult to say whether or not the lowest point has yet been reached.

In Manitoba unimproved land can be bought within a radius of 20 miles from Winnipeg at from £1 to £3 per acre, but near the city it runs up to £50 per acre. All through Manitoba, within a few miles of the railways, unimproved land can be bought at from £1 10s. to £3 per acre. As one goes farther west through Assiniboia, Saskatchewan, and Alberta, plenty of land can be purchased at from 5s. to 25s. per acre, according to quality and location; and in the most of cases I would advise settlers who have the means, to purchase land near a railway rather than go farther back in order to get it free.

In British Columbia timber land may be bought at 5s. per acre, but the cost of clearing is so heavy, and the value of the wood so little (practically speaking, nothing), that it is often said that it costs more to clear land than the same land will sell for after being cleared. Heavy as must have been the clearing of the land of Ontario, that of British Columbia is worse; but fortunately, there are vast stretches of good land which require no clearing. The delta lands at the mouths of the Fraser are among this class, as are also the alluvial lands along its banks. They, however, generally require dyking, ditching, and draining

before being suitable for cultivation, all of which add materially to the first cost of the land. Lulu Island and the district lying between Ladner's Landing and the United States boundary belong to this class; and recently farms have been changing hands in these localities at from £12 to £15 per acre, which, in some cases, included very few improvements. Near Victoria farms partially cleared can be readily bought at from £6 to £10 per acre, but for good land, all cleared and near the city, £20 per acre will have to be paid.

In Manitoba, the North-West Territories, and in British Columbia, a small percentage of land is leased. On the east side of the Rockies, more particularly in the wheat districts, the usual custom is to do so on shares, in which case the owner of the land pays all taxes and provides half the seed, getting as his share one-half or any agreed on portion of the crop, the tenant doing all the labour. This manner of renting land does well enough where the produce is all grain, and where the amount can be accurately ascertained, but is quite unsuited, at least without great modification, for any of the systems of farming generally practised. On the Fraser River I found a mixed farm with some fruit rented at 30s. per acre, but such rents are *very* uncommon.



AN ONTARIO FARM.

Buildings.— Dwelling-houses and other farm buildings all over Canada, from the Atlantic to the Pacific, are as a rule built of wood, there being a few here and there of brick and stone. In Ontario the dwelling-

houses are generally very artistically built and neatly painted; they are very comfortable, and usually are larger in proportion to the size of the farm than the same class of houses in Britain. All are heated by stoves or hot-water pipes, wood being the fuel in general use, many farms still having as much wood on them as keep the farm in fencing and fuel. On the ordinary farm the usual out-houses are comprised in an immense barn, with cow and horse stables under, extra buildings for other purposes being rather scarce. The barn is now generally built of stone to the level of the barn floor, and, if the ground permits of it, the building is half-sunk as a protection against cold. The barn proper is constructed of wood, is usually a very high building, and in it is stored the whole season's crop of grain and hay. From the level of the ground a roadway is built to the barn entrance, so as to permit of driving the loaded waggons right into the barn. If turnips or mangolds are grown, a root-house or cellar must be provided for them, as, owing to the severity of the winter, they cannot be stored outside, as is done in Britain.

In Manitoba or the North-West Territories it is very rare that a barn is seen, the bulk of the farm buildings there consisting of a horse stable, occasionally a granary, and on the mixed farms a cow byre. These are built in many different ways: if boards are plentiful, they are of sawn timber; if large trees are easily got, they are built of logs, and if only small ones can be had, they are set up on end, quite close to each other, so as to form a wall, outside of which are placed a wall of turfs, three feet or so in thickness, the whole being roofed in the usual way. Horse stables are either floored with planks or blocks of wood set on end, or it may be left without any artificial floor at all, as stone is as yet seldom used for that purpose. It is only on rare occasions that any building is put up for implements, waggons, or machines, the usual custom being to let these lie about exposed to the weather. Farm dwelling-houses are occasionally now being built of stone, but as yet their number is very small.

Fences.—In Ontario the principal fence is still the snake-rail one, although in many instances these are being re-made and put up straight. In occasional instances there are seen walls built of stones gathered from the fields. Wire fencing is not yet very common, while barb wire is only occasionally seen. Live fences are almost unknown, as none of the fencing plants of Britain can stand the Ontario winters. A suitable plant would be a great boon to the country, and it is to be hoped that such will be introduced soon.

In Manitoba and the North-West Territories, stob and rails of young poplar trees are in most general use, while some put plain and others barb wire on the stobs and a rail on the top. Much of the West is, however, as yet quite unfenced, but this class of work is progressing rapidly.

Draining.—Most of the land of Quebec, and some of Ontario, is much in need of under-draining, as very little of such has yet been done, owing to the cost of labour and want of money. In the dry climate of Ontario such thorough draining as is common in Britain is not necessary, and it is even very questionable if it would pay if

done in anything like a thorough manner; still, I think drains should be put in all along the lower and damper places of each field.

In Manitoba and the North-West Territories no under-draining, unless in exceptional cases, is ever likely to be done, the rainfall there being so small. A great deal remains, however, to be done around Winnipeg and other centres in the way of providing open drains or canals to carry off the surface water. Within a radius of 30 miles of Winnipeg there are several vast stretches of what appears to be excellent land if only drained, but which is rendered comparatively useless through the presence of surface water, and yet there is ample fall from it to either the Assiniboine or Red River. What appears to be wanting there just now is the formation of the whole country into a drainage board, in order that open canals as deep as the levels will permit of, may be dug along one or both sides of the road concessions, and that each owner should pay in proportion to the area drained. This work can never be done privately, and the district will never make much progress until it is done; the Government should therefore inquire into the matter, in order to see how the present state of affairs can be easiest remedied.

In British Columbia, the districts of Ladner's Landing, Lulu Island, and several smaller areas along the Fraser, the best lands are being protected from the rise of the river and the tide, by having embankments about four feet high thrown up along the river and sea side. This work has made that land much more valuable, and open canals with sluices at their outlets are now being made along the road allowances, which is thoroughly completing the work. In many cases under-draining was necessary to finish this work, and in some cases it is being carried out also.

It seems strange to me that the mole plough has never been brought into service here, as the land being flat and entirely composed of silt, it is a situation where it would work to perfection, and at a tithe of the cost of ordinary tile-draining. Where the bottom is not firm enough to warrant the use of the mole system alone, round tiles can quite easily be laid in the track at the same time as it is being cut. This, however, in many cases I think would be unnecessary, as I found the principal method of draining was to leave a shoulder or projection on each side of the drain, about six inches from the bottom, and on this to lay pieces of board, so that if the sides of such a drain stand quite satisfactorily, much more should the sides of a mole drain.

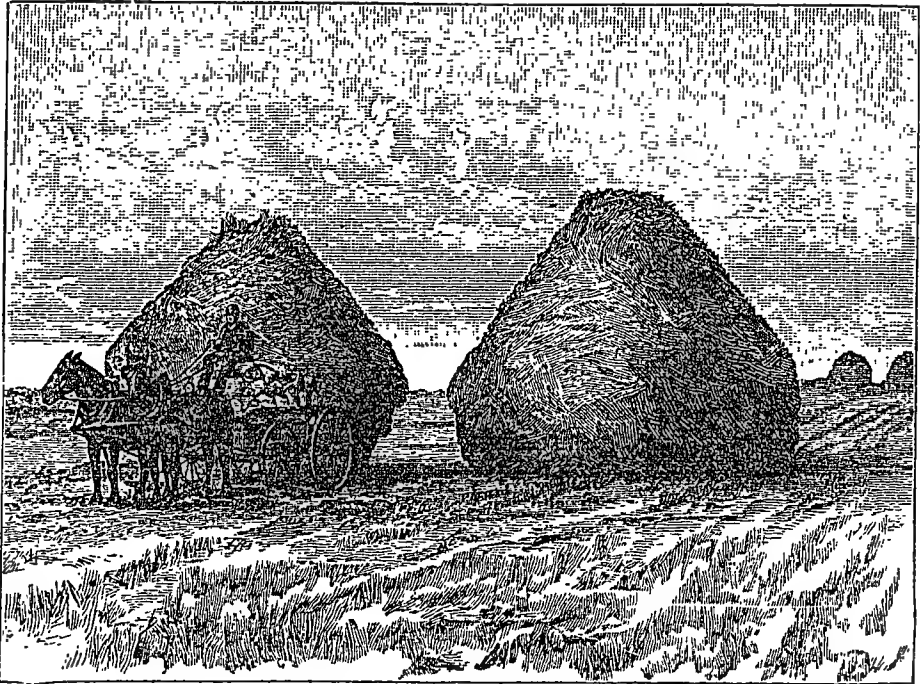
Roads.—Unless within or very near the large towns, very few of the roads of Canada are gravelled. Everywhere road allowances run north and south, east and west, one mile apart, but even in Ontario little is done for them over the greater part of the province, unless a little levelling and rounding of the road, and what bridge-making is necessary. In Quebec and Ontario, as a rule, they are fenced in, but in Manitoba and the North-West Territories such is only done in the thoroughly settled localities. Owing to the dry summers and frosty winters of the whole of Canada, I can quite easily believe that for ten months of the year the roads will be amply sufficient, but for one month in spring, and another in autumn, they are often excessively bad. In

the newer provinces this state of matters can quite well enough be excused, but in Quebec and Ontario such is not so easily done. There stone in the shape of rock, land boulders, and gravel, are fairly plentiful in many districts, and if farmers were only paid a small sum for gathering these boulders and small stones where rock does not abound, the supply might considerably be increased. If the main roads were once thoroughly bottomed, by laying the foundation of hand-packed stones of the largest size, then another layer of medium ones on the top, the whole being finished by a layer of gravel, they would last for years without much attention other than a little mending and rounding now and again. The way in which the roads are managed is also much behind the age, each farmer at present sending every year a certain number of men and teams for so many days, according to the size of his farm. The consequence is, each man does as little instead of as much work as he can, everything is done unsatisfactorily, every operation takes more time than it should do, and in the end no one is pleased. Each farmer has the option of doing his statute labour by himself or his servants, or by paying a sum in lieu thereof, as he thinks best; most farmers, however, prefer to do their number of days' work. The remedy is to form district road boards, levy an assessment for the maintenance of the roads, appoint a head roadman, and put and keep a certain number of men on each length of road according to its importance, and the probability is that the roads will be better and cheaper kept than at present. On inquiring into this matter as to the number of days of a man each farmer owning 100 acres had to furnish, and calculating such at the current rate of wage, I found in the neighbourhood of the large towns that the indirect sum the Canadian farmer pays towards the maintenance of his roads is not so very far behind what the British farmer does, and yet he has few worthy of the name of roads after all, in the worst seasons of the year.

In several of the low-lying districts of British Columbia, where rock is quite wanting and where the soil is always soft, I found many of the roads bottomed with planks or trees laid across the road, a good bed of gravel being afterwards spread on the top. In all the instances which came under my notice, an excellent road for any moderately heavy traffic was formed by this method. In many districts of British Columbia, where the rainfall was very heavy, I was surprised to find that in making new roads soil was used in preference to rock, which was lying alongside, and only required to be blasted and broken.

Wheat Farming.—Unless in Manitoba, this system of farming is not practised to any extent in any other part of the Dominion; and where the land is good, climate suitable, and means of transport sufficient, more money can in all probability be taken out of the land in a short time by it, than by any other system. This class of farming has also other recommendations, in being one which requires less capital in proportion to the receipts than where mixed farming is pursued, while at the same time it gives very quick returns. Its drawbacks are, that the land is quickly exhausted, that the success of the farmer entirely depends on the suitability of the season and markets for this one crop, and that sufficient labour

is not provided for the farm hands all the year round. On these farms no happy medium appears ever to be struck: work is either in excess of labour, or labour in excess of work. Autumn ploughing has to be pushed on with all speed in order to get it through before frost



WHEAT STACKS, MANITOBA.

sets in, after which there is little or nothing to do till spring, particularly if the crop has been threshed and hauled to market previously. If such has not been done, it affords a little labour during the long winter, but it is nothing like enough to keep the whole staff going. The consequence is, many have to be turned off. As soon as frost breaks up, a hard push has to be made to get all the crops in as soon as possible, for in the dry climate of Manitoba late seeding never succeeds, for various reasons. If farm hands cannot be kept on the whole winter through, and if they find it difficult to get employment during winter, they must be paid a much larger wage during the active part of the year, in order to bring up their earnings to an equivalent of what can be received at other employments.

The autumns of Manitoba are so dry that shed grain very often does not germinate until spring. This shed grain often comes quite thick enough to form a fairly good crop, under which circumstances it is occasionally allowed to stand, so that a crop is here produced without any direct seed or labour. I do not infer that such is the best way of producing a profitable crop of wheat, because by ploughing and seeding in the usual manner a more profitable one might have been reaped. These crops are called volunteer crops. The growth of grain shed the

year previous is one of the principal reasons why Manitoba wheat often contains a considerable proportion of oats or barley. In one flour mill I visited, I found these oats being taken almost entirely out by a very cleverly constructed machine, the oats so recovered in the course of a year amounting to a very large quantity.

Reasoning from the success of these volunteer crops, I would be inclined to suggest that in districts where early ripening is desirable, a portion of the seed should be sown in autumn just before frost is expected to set in. The soil would then work well, and if the land was frozen before germination had gone too far no loss of seed would be likely to occur. This is a system of cultivation which the Experimental Farms at Brandon and Indian Head might do well to try on a small scale, as the land being left undisturbed in spring might retain its stock of moisture better than where spring cultivation has to be done.

On these wheat farms, until the last few years, there was very little work to do between seed-time and harvest, unless where new land had to be broken up. To meet the difficulty of a press of work at certain seasons of the year, and in order to raise the fertility of exhausted land, a system of summer ploughing, called *fallowing*, has been introduced, which at least provides sufficient employment between seed-time and harvest for the farm hands when they are not engaged in hay-making. It has been found that in the most of cases 200 acres of land under wheat, which has been summer-fallowed one year out of three, will produce as much grain as 300 acres kept continually under crop, while at the same time there is a saving of 100 acres of seed, besides the labour of seeding and harvesting. This land is ploughed during the growing season, and in the generality of cases nothing else is done to it till the seed is sown the following spring. If the soil contains a large amount of seed weeds, and more particularly if the ploughing is done very early in the summer, these weeds may mature enough to seed about harvest time, in which case it will be necessary to give the land a second ploughing before harvest begins. If, however, the weeds do not get strong enough to seed, they do little or no harm, as the frost kills them all off during winter. The opening up of the prairies for the growth of wheat is reducing the area of both fall and spring wheat, not only in Britain, but in Ontario, while oats appear to be on the increase, and also peas.

Ploughing.—In the older provinces ploughing is conducted in much the same manner as in Britain, and Scotch ploughs are very common at the ploughing matches in Ontario, although, as with us, these ploughs are being less used for everyday work. On the prairies and wheat belts double and single sulkies (or riding ploughs) are in very common use, but for superior work I find the best men prefer the single walking plough.

The breaking up of the prairie is done early in June, when the plants are soft and succulent, and before the soil becomes too dry. A special plough is generally used, which turns over a broad thin furrow about 2 inches or $2\frac{1}{2}$ inches thick. When ploughed so thin the hot sun very soon kills all the vegetation, whereas if done thicker, such is not the case. Any time during the autumn this land is re-ploughed,

the furrows running the same way as before, as, although the vegetation is now dead, the sod is so tough that the coulter cannot cut it. This work is called backsetting, and should be done an inch or an inch and



PLOUGHING AT SANDISON'S FARM, BRANDON.

a half deeper than the first ploughing. Nothing more is now done to it till spring, when it is sown and harrowed in the usual way.

After harvest, ploughing of every kind is pushed forward with all speed, because frost soon sets in, and there is such a hurry in spring that little can be done then. In all the North-West ploughing is done very shallow, seldom over 6 inches deep, and in the present state of the fertility of these lands, it has been found to be the best plan. If the land were deeper ploughed, it is generally conceded that the crops would suffer less from drought; but it has been found that grain on new land, deeply ploughed, generally grows so much to straw that it does not ripen well, and that about as much is lost through late and irregular ripening and occasional deterioration by frost, as is gained by conservation of the moisture. Like many other farming operations, no fixed rule can be laid down, as the depth, moisture, fertility, and likely date of ripening must be so considered as to give each its due share, otherwise disappointment is sure to follow. Some emigration agents and enthusiasts have been in the habit of proclaiming that on these prairies the soil only required to be scratched, and in some cases tickled, in order to produce a full crop. Not to use a stronger expression, such statements are gross exaggerations, for although ploughing can be, and is, done more carelessly than in Britain, still good ploughing everywhere gives a better return than where indifferently done.

In several of the wheat-growing districts, farmers are to be met with, who have large farms and no stock other than a driving horse.

These men let the ploughing, seeding, and harvesting at so much per acre for each and all, to their smaller neighbours around, and, judging from reports received, they appear to be making the system pay; it, however, is one which cannot be recommended, and which is not likely to be very long continued.

Sowing.—Sowing is generally done by a drill, or seeder, as they call it; the best I came across being one with wheels having a 2-inch face, running behind each coulter, and along the top of each row of seed. The machine is called a press seeder, and, besides doing the ordinary seeding, it does the rolling in a much superior way to the roller. In the dry climate of the North-West it is very desirable that the soil be pressed firmly around the seed, otherwise a considerable proportion of it may fail to germinate. Many of the richest soils of the North-West are so fine when dried in spring and crushed by the roller that if a high wind comes on soon after, they are apt to drift and leave one portion of the seed uncovered and another too deeply buried. This drifting or blowing does not take place after harrowing, because then the soil is all in little lumps, and with the press seeder the good effects of regular seeding with rolling are secured, without any of the disadvantages of the latter.

Some farmers of undoubted success whom I came across strongly advocate broadcast sowing in preference to drilling, *where a large breadth has to be done in a limited time, as is the case on all large wheat farms.* By sowing broadcast more seed must be used, but they say what little is lost in seed, is gained at the end of the season in extra quantity and quality, as the whole crop if sown broadcast can easily be seeded in good time, whereas if drilled a considerable area may be so late that the loss on it by autumn frosts and lessened produce may exceed any saving which can be effected in the seed. It may here be mentioned that in the North-West there is no loss of seed left on the surface, through the depredations of birds, as is the case in Ontario and Britain, as birds are very few in these regions. Of all the seed grain *left on the surface* I do not expect over 30 or 40 per cent. will germinate and grow, so that, supposing that estimate to be correct, the actual loss in seed will only be about one-third of what is left on the surface, which, after all, is not very much, if it is to save a crop from a night's frost in August. With a broadcast sower attached to a waggon, and scattering over 50 feet or so, many farmers say they can sow up to 100 acres per day: the story looks pretty big, but I am told on fairly creditable authority that such is done.

Reaping.—All reaping, as a rule, is done by going round about the field, the dry summer and shorter and stiffer-strawed crops, allowing the self-binding reaper to work to perfection. The stubble is usually left from nine inches to a foot high, unless where the crop is so short that they are compelled to cut it low in order to get it tied. The great unoccupied area of new land usually gets the credit of being the cause of the lowering of the value of farm produce generally, and of the land of Britain and the eastern provinces particularly; but I am inclined to believe that the self-binding harvester has been as important a factor as any. Without the land it certainly could not have been done, but even

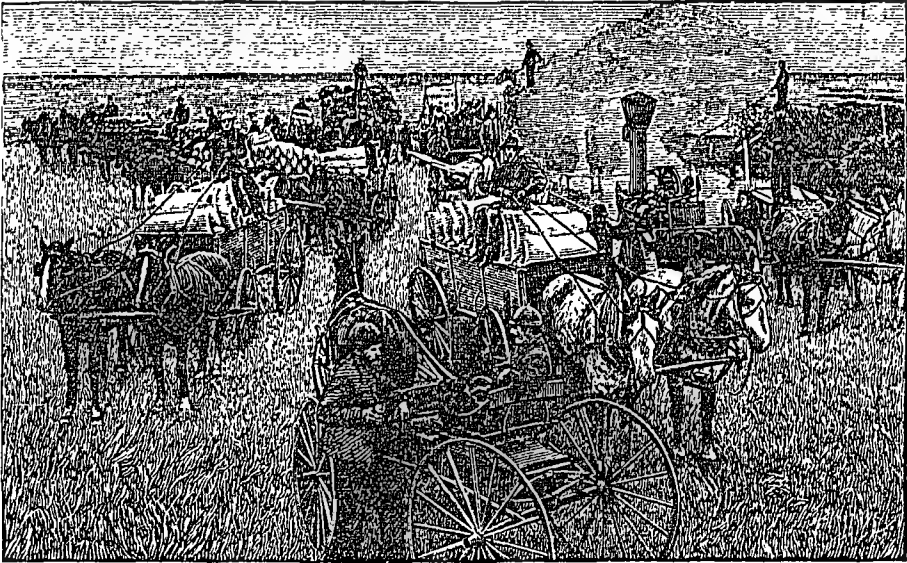
with the land and the railways, but without the self-binder, I question if very much wheat could be grown in the North-West at a profit, if wages were to remain, much less get any higher than they presently are there.

Reaping begins when the crop is comparatively green, I might almost say quite green, because the hot sun ripens it so quickly and causes it to shed so easily, that if it is not cut before the dead ripe stage is reached, more may be lost by shedding than by early cutting. Owing to the hot sun quite shrivelling up the straw very shortly after reaping, the grain must consequently be unable to draw any nutriment from the straw after cutting, whereas in Britain it is always considered that grain ripens a good deal in the sheaf, therefore such green cut wheat straw should be much more valuable as fodder than ours. The reaping machines are generally fitted with sheaf carriers, so as to drop as many sheaves at one place as make a stook or shock, thereby very much lessening the labour of setting up. As showing the rough-and-ready way in which farming is often done in the North-West, and the good climate with which they are favoured, it may be mentioned that in good seasons large areas are never stooked at all, the sheaves being simply allowed to lie on the ground till they are ready to stack. They had a regular Scottish harvest this year, that is, as far as weather is concerned, so that I saw none of that way of doing work myself.

Stacking.—In Ontario the grain is all housed in large barns, which are built over the byres, stacks being scarcely ever used. In the North-West and in British Columbia, the grain is usually stacked in the field. If cattle are kept, it is hauled to near the house, so that it may be used by them both for fodder and litter. The usual pattern of stack is circular, with a low body or shank, and a long sloping roof. As rain seldom falls in autumn, and the snow is so dry that it never wets anything, thatching appears never to be thought of, and is never done. Two, three, or four of these stacks are usually built together, so as to cause as few removals as possible of the engine and threshing machine.

Threshing.—Many farmers thresh their whole crop from the stook, the grain being hard enough at that date to store in elevators any number of feet deep. The threshing machines in many respects are very like our own, but their drums, instead of having corrugated beaters like ours, have short pegs an inch and a half to two inches long. The drum appears to be run at much about the same speed as ours, but, instead of putting in the sheaves sideways or at an angle, as we do, they put them in ears first, in the same way as the slow-speed peg drums of Scotland are fed; but, unlike the latter, the Canadian pattern has no feeding rollers. Each machine very often weighs and records the number of bushels threshed—a sack of grain being two bushels, instead of four or six, as with us. The sacks in common use are very much the same as clover-seed is distributed in throughout Britain. The feeder is supplied with sheaves from both sides, two waggons being emptied at once. When threshing from the field, six waggons, each with a pair of horses, are generally used. These machines usually put through from 1,200

bushels to 2,000 bushels per day, and I am told that 2,500 bushels is occasionally done. That is from three to five times as much as can be done with our crop, and were it not for their very short sheaves (almost a sheaf of ears) and the brittle nature of their straw, it would



THRESHING AT SANDISON'S FARM, BRANDON.

be impossible for them to do so. All the threshing is done by the bushel, and from the way in which every operation is performed, one can easily see that every person is on piece-work. After the straw comes through the threshing machine, it is very much broken, but to the wheat farmer that is a matter of no consequence. As the straw comes from the thresher it is hauled 20 or 30 yards away by a pair of horses, each yoked to the end of a ten-foot pole, much the same as hay is occasionally collected in the fields with us. On the large wheat farms, the only fuel I saw used for the engines was straw, and with it steam appeared to be very easily kept up. Straw, when fed in small but continuous quantities, appears to give a very fierce heat, and to my mind the quantity used was very small indeed.

Straw-Burning.—After the grain and machinery have all left the field, the whole is set fire to, and if the field is alongside any unbroken land, a few plough furrows are usually run round each field, so as to confine the fire to what it is intended to burn, as anyone setting fire to the prairie is not only liable to be heavily fined, but runs a risk of having an action brought against him for any damage which may be caused by his carelessness.

Where a long stubble is left and afterwards burned, the land is often sown the following spring without ever being ploughed. In such cases, the land is simply well harrowed with a pair of heavy harrows, but oftener with the disc harrow, the seed being afterwards put in with the drill.

The Average Crop of Grain.—The average amount of grain which an acre of land will yield under continuous wheat-growing is very various, according to the land, locality, climate, and farming, for there are good and bad farmers in Canada as well as elsewhere. I have carefully gone over the collected crop returns of the Province of Ontario during the past ten years, and, estimating the present crop at 24.6 bushels per acre; the average production of that period will be 20 bushels per acre; whereas the average of England is generally set down at 28 bushels, although this is considered by many to be too high.

From the estimates made by me of the yields of the various crops in Manitoba, I would be inclined to place the wheat average at about 20 or 22 bushels per acre. This year many crops were very much more, some almost double; but then, dry years come every now and again, when the yield is very much less. Since coming home, I have received the actual yields of several farms in ordinary cultivation, the farmers having sent me such themselves, without any previous arrangement, and these run from 30 to 32 bushels for wheat. On the other hand, when the averages of Ontario or Manitoba are compared with the published averages of several of the wheat-growing States of the United States, it will be found that they compare very favourably, for these States are generally from 2 to 4 bushels an acre less than even Ontario. The averages of all the provinces are very much less than they might be, owing to the very indifferent way in which the bulk of the land is cultivated.

The wheat of British Columbia has quite a different appearance from that of Manitoba, the latter being a very albuminous wheat, while the former is more starchy, resembling, in fact, very much the best white wheats of England.

In Ontario the average for oats runs about 36 bushels, but where good farming is practised, it of course goes very much over it. The weight per bushel of Canadian oats has always been very much against their sale in Britain as oats, the usual weight being from 34 to 35 lbs. per bushel. The Government have, however, for several years been testing samples of oats at the different Experimental Farms, from everywhere throughout the world, and it is hoped that several varieties more suitable for the British market than those now grown, and capable of being cultivated by the Canadian farmer, will shortly be introduced. Good headway has already been made, and the future looks prosperous.

In British Columbia oats do extraordinarily well, and several very large crops came under my notice. Contrary to the experience of the rest of the country, the weight of oats per bushel in British Columbia is very good, I having there measured and weighed them myself at 44½ lbs. per imperial bushel.

In no grain has greater strides been made than in barley, the introduction and cultivation of the British varieties of which, the Government have done very much to encourage of late. Previous to the last two or three years, the four and six rowed barleys were the only varieties grown, the bulk of which went to the United States for brewing purposes. Four years ago, however, the Government, through

Professor Saunders, of the Ottawa Experimental Farm, commenced to make some tests with British varieties, with a view to getting a better malting barley than was then in general use. Since then every spring small parcels of seed have been largely distributed at cost price among the farmers all over the country, and next spring it is anticipated there will almost be as much barley in the country as should meet its requirements for seed. Hundreds of farmers have tried the British varieties, all with more or less success, and samples of Canadian barley, grown from English seed, sent to the late Brewery Exhibition in London were very favourably reported on.

Peas are very largely grown in all the older provinces, and everywhere appear to do well, the average for Ontario being about 20 bushels per acre



FARM SCENE, MANITOBA.

Mixed Farming.—In no country and on no soil, can the continuous growth of one plant without manure be carried on without the crop becoming lessened and the land deteriorated. In order to return as much as possible to the land, and to be able to turn the straw to some account as fodder and litter, mixed farming is the general system practised in every country, and in my travels through Canada the bulk of the most successful farmers I came across were certainly persons who had adopted mixed farming, and who had decided not to put all their eggs in one basket. Mixed farming has several other advantages: it permits of the farm work going steadily on from one end of the year to the other; a comparatively small supply of labour is necessary, yet that

supply is always capable of putting in and getting off the crops in due time without risk of frost, or requiring to pay extravagant wages for outside labour. Mixed farming requires buildings and fences, which wheat farming does not, so that, until prairie farms are put in order, it is not just so easy to adopt mixed farming in a new country, as many would at first suppose. In the north of Manitoba, and west of it, on to the Pacific, mixed farming is being more and more adopted every day, as many of the large wheat farms of these districts are not turning out the paying concerns many at one time supposed them to be.

Dairy Farming.—Throughout Canada very few farms are devoted entirely to dairy purposes, yet the majority of the farmers of the older provinces and in the North-West do more or less at it and general mixed farming, each of which may be considered as forming an important part the one of the other. A very considerable portion of butter is made in the farm-houses, but I did not come on any very great quantity of cheese being made in that way.

Besides the butter which is made in the farm-houses, there is a good deal made at creameries, of which there are between forty and fifty in Ontario alone. Their number is, however, decreasing in Ontario, cheese factories appearing to be more in favour than they are. In Ontario, each creamery on an average is supplied by about 450 cows, and continues in operation from about the middle of May to about the middle of October. In Manitoba, however, it seems likely that creameries will continue to increase for many years to come, because where houses are considerable distances apart, the cream from a number of cows can be easily enough gathered at very little expense; whereas, were the whole milk collected over a sparsely-peopled district, the extra cost of hauling it would run away with all the profit. In Manitoba, I found that most of the smaller farmers raised their cream on the deep-setting principle by immersing their narrow cans in cold water. Some few had ice-houses, in which case the cans were kept in water cooled with ice; but where such a provision was not made, the cans in most cases were lowered into the well, where, during the hottest time of the year, the cream kept quite sweet till the creamery cart came round.

In Ontario for a number of years there has been an average of about 750 cheese factories, a large number of which are co-operative concerns. About fifty or sixty farmers send their milk to each factory, the buildings and dairy utensils of which belong to themselves. They usually engage an expert cheese-maker, and pay him on an average about one halfpenny per pound for making the cheese, the farmers delivering the milk, supplying all requisite utensils, and carting away the cheese, while the maker provides all necessary labour, rennet, colouring, &c. Each farmer has a stage fixed at the end of the road leading to his farm, the top of which is level with the bottom of a waggon, and on which he leaves his full cans of milk. The farmers in rotation do the hauling to the factory—two, three, or four, according to the size of their herd, combining to send their milk in one waggon. One of the farmers is appointed president of the association, and on him devolves the duty of selling the cheese, which, as a rule, he does in such quantities and at such times as he thinks fit, without

consulting the other members. The farmers themselves do the hauling of the cheese to the nearest railway station in such quantities and at such times as sales are made, the total proceeds, after deducting expenses, being divided among them in proportion to the milk supplied by each. The cheese factories very often begin about the same time as the butter ones, but they usually continue open about a month or so longer. The climate of Ontario appears to be very well suited for the making of cheese, and Canadians as a rule are very well up in its manufacture, and consequently turn out a very superior article. Canadian cheeses, like Canadians themselves, are very little known in Britain, and usually all go by the name of Americans. Canadians would therefore do well to see that their own make of cheese was all branded "Canadian," as the cost would be infinitesimal and the gain might be great.

Fruit Farming.—The land lying along the St. Lawrence, the southern and western counties of Ontario, and most of the land of British Columbia is admirably adapted for the growth of fruit. In the Hamilton and Niagara districts vines, peaches, and tomatoes do well outside, and are cultivated over vast areas. The vines are usually trained to trellises, the peaches as standard trees, while the tomatoes are grown very much as we do potatoes. Cherries, plums, pears, and apples do well over all Ontario, while in British Columbia their growth is simply marvellous. There the plum and cherry, and more particularly the apple, do remarkably well, occasional samples of the latter being grown up to $1\frac{1}{2}$ lbs., and pears up to 2 lbs. in weight. The weight of fruit which these trees carry is beyond the comprehension of the average Britisher, and requires to be seen to be believed; in fact, the trees in many instances appeared so covered with fruit that you could scarcely see the tree for the fruit. In British Columbia large areas of land are being annually planted with fruit trees, and in the near future it appears that the preserving of apples by evaporating or otherwise, and the canning of cherries and plums, might even be a greater industry than the salmon-canning of that province. Presently, the local demand equals the production of the province; but, unless the population increases at a phenomenal rate owing to mining or something else, the supply will very soon exceed the demand, and then drying or preserving will have to be resorted to. At the present time timber up to 3 feet or more in diameter is being cut or burned down in the easiest way in which it can, the logs being cut, then split by dynamite, and burned where they lie, because they are of no value to haul away. In some cases the tree roots are dug out, in others blown out by dynamite, or by both, while in many they are left to rot, fruit trees being at once planted between them. Tree roots take on an average about 8s. each to take them out in British Columbia, the roots being generally large and the wages high.

Hops also do very well in British Columbia, and in the near future it seems probable that a profitable trade may be begun in these, as they are found to do and pay well in the neighbouring state of Washington, where they have been grown for a good many years. The costly carriage to the British market need be no difficulty in the way of cultivating hops, as their value per lb. is so much greater than ordinary farm pro-

duce, that if they can be grown successfully they are almost sure to be grown to profit.

Cattle Ranching.—Alberta more than any of the other territories is given up to cattle ranching. That part of the province south of Calgary is principally devoted to cattle and horses, McLeod being the centre of the ranching industry. Although the greater part of Alberta may be said to be devoted to ranching, still, ranching is not all confined to Alberta, as odd ones are scattered over all the country from Manitoba westwards. Less snow is said to fall in Alberta than in any of the North-West Territories, and while the summer temperature is lower than farther east, the winter temperature is higher. The land is generally leased from the Government at a rental of one penny per acre, the Government compelling the owners to keep at least 10 head of cattle on every 200 acres, while they reserve the right of breaking the lease at any time by giving two years' notice to quit. In some cases the ranches are very large, several containing 100,000 acres. Owing to the rough way in which the stock are handled, and the entire absence of any provision being made for providing them with food or shelter during winter, the losses are often excessively severe, and among the ranche-men it is said that little dependence need be placed on the reported death-rate of any ranche, as nearly all are much higher than they are generally said or admitted to be. The cattle receive very little attention in the way of herding, being simply allowed to roam over the prairies at their own sweet will. Twice a year, spring and autumn, the whole herd is gathered together for branding purposes, all strayed animals being at these times returned to their owners. At McLeod, Henderson's Cattle Mark Register is kept, and in this book is entered the mark or brand of each ranche. People are beginning to advocate better provision being made for wintering the cattle, but on the large ranches little has as yet been done. From inquiries made it appears quite evident that the cattle can get on fairly well in an average winter without any provision being made for them, but every few years one comes on more severe than the rest, when the losses through cold and starvation are very severe. If suitable lands all over the ranches where the grass grows long were set aside for making into hay, it might be preserved and stacked near at hand several years in succession, there to stand until a severe enough winter came demanding its use. A similar plan is adopted on the Scottish Highland sheep farms, and I see no reason why one somewhat the same should not be adopted on these ranches, as, according to all accounts, a single severe winter causes losses equal to the cost of storing hay for many winters.

It may be noted here, as the experience of many persons in the ranching business, that hornless cattle, such as Galloways or Angus, are preferable to horned ones for standing the cold. Several of these men told me that they had seen hornless cattle quietly eating their fodder or chewing the cud, on an excessively cold day, when horned ones were shaking their heads, and turning them to the side with pain in the horns, owing to their being wholly or partially frozen. It is also said, that their horns occasionally drop down or altogether off owing to having been frozen, which is at least one good plea for the

introduction of these breeds. As both have a distinctive black colour, and are well known to be very impressive as sires, the introduction of a few bulls would very soon grade up the whole herd.

If proper precautions were adopted for sheltering and feeding the stock in winter, the business bids fair to continue to be a very profitable one. At present the working expenses of a ranche are very light, the taxes are only a trifle, the rent is little more, the only item of importance being the interest on capital. Bullocks two and a half years old sell presently at from £5 to £6 at the ranches; the rail and ocean freight, food charges, insurances, &c., to Britain are about another £5 or £6. At these rates two and a half year olds may be delivered in Britain at from £10 10s. to £11, while three year olds could probably be delivered at from £12 to £13; at which prices, if the winter losses on the ranches and the autumn ones on the ocean could be reduced to within more moderate limits, the business might be made a very profitable one. Up to the present, the bulk of the cattle which have been exported to Britain have come from Quebec and Ontario; still in the near future a very much larger proportion will likely come from the ranches. The cattle trade appears to be one which is likely to go on and increase, for in eighteen years it has grown from nothing to 120,654 head during the past eleven months. During that time there have been a few ups and downs, but, all the same, the figures have gone on always increasing.

Cows.—The export of cows from Canada to Scotland appears to me to be a trade in which a large and profitable business could at the present time be done. Good cows, showing some breeding, and apparently of a fair milking type, could be bought readily in Ontario during the autumn months at from £6 to £9; rail and ocean freight, insurance, &c., to Glasgow, if put at £5, would bring the price in Scotland to, say, £12 to £14; whereas these same cows would presently sell here at from £15 to £20, leaving a good margin for profit. Cows near the calving, to come with safety, would require more space on board ship than bullocks, but I think I have allowed enough margin for that, when the present ocean rate is about £3 for bullocks, whereas I have allowed £5 for cows. As in bullocks so in cows, only the best should be sent, because the freight and other charges may amount to about one-half of the total value, and they will be the same whether or not a valuable animal is sent. Cows to calve from November to February might also be sent over for grazing purposes any time during the summer months.

Horse Ranching.—On the horse ranches the stock are treated very much in the same manner as the cattle are on the cattle ranches. The mares and young stock are allowed to run out all the year, and little, if anything, appears to be done to provide them with either food or shelter in a severe winter. Many of the ranchers and farmers have supplied themselves with pure-bred stock of the different favourite breeds, but as a rule the bulk of the mares are of the usual Canadian stamp. Clydesdales and Shires of moderate quality and medium size appear to be most in favour, but, in spite of all the importations which have arrived, comparatively little impression has been made on the general stock of the country.

The Canadian horse as presently bred appears to be well suited to the wants of the country, and as long as breeding is carried on simply to supply the wants of Canada, little or no increase of size or weight is necessary; but the day appears to be near at hand when horses might be exported on a scale almost similar to what cattle presently are, and if such is to be done, they must be bred of a size and quality likely to please the purchasers. These purchasers are likely to be the British; so that the sooner Canadians get at least a portion of their stock graded up to the requirements of the British purchasers the better it will be for themselves.

Owing to the light weight of the average Canadian mare, the heaviest class of Clydesdale and Shire stallions are not wanted, and will not pay to import, unless in very exceptional cases. The service fees which can be obtained in Canada are so much less than in Britain, that a good horse of any of these breeds will do better at home than abroad. All the North-West Territories appear to be admirably adapted for the rearing of horses of every kind, and I think a good market already exists in Britain for the heaviest class of draught and carriage geldings. A small trade in the latter class is presently being done, and it might very materially be increased with benefit to both countries, were there a sufficient supply of the proper class of horses, which, however, there is not. The breeding of heavy carriage horses appears to be the class easiest and quickest arrived at, if the existing Canadian mare is to be worked on, as by using the heaviest obtainable class of thoroughbred or Cleveland bay stallions, and carefully selecting the mares, the desired article might at once be produced. Such a horse would suit the wants of Canadians and Canadian agriculture, and it could be worked and trained at home until it was of mature age, after which it could be exported at a price double or treble that of the ordinary stamp, while, at the same time, it would only have cost a mere trifle more to produce it. This class of horse has been in great demand in Britain for years, and in Canada it is likely to be produced as quickly, of as good a quality, and as cheaply as anywhere else on the globe. For the immediate production of the heaviest class of draught horses, imported stock of both males and females must be used, otherwise it will take many years and considerable selection to get up the weight.

The short, rich herbage of the prairies, the clear bracing air, and firm, dry land appear to be admirably suited to produce horses sound in wind and limb, if only reasonable care is exercised in the original selection. The attention absolutely required during the year appears to be even less than is usually given to cattle, although, like them, a little more care given to shelter and feeding during severe weather, would be doubly repaid. It is also worthy of note here, that imported stock of all kinds are not at first anything like so well able to support themselves, as those which have been on the prairies for a few years. Valuable imported animals in no case should be turned out on to the prairies, and no further attention paid to them, in the belief that they will be as able to forage for themselves as the native animals, for if such is done, loss and disappointment will be sure to follow, as has already happened in a good many cases.

There has been no increase in the export of horses from Canada for ten years, a fact which deserves the serious attention of all those interested. This, to a certain extent, is probably accounted for by a very great number of the extra horses being required during that time to stock the new lands being opened up in the North-West, so that matters may not be so bad as at first sight they actually appear.

Sheep Ranching.—A great part of western Assiniboia, northern Alberta, and Saskatchewan appear to be well suited for the raising of sheep. The short, dry grasses point to sheep as the stock fitted by nature to consume them. The class of sheep apparently doing best there just now is the Merino ewe crossed with the Cheviot or Shropshire ram. The ewes cost on the ground from 15s. to 18s. each, and are easily obtained. The rams are generally imported from Britain or brought from Ontario, and in either case they are very costly.

On these plains, sheep require much more attention than either cattle or horses, which, owing to the scarcity of labour, is one of the reasons so few people have entered into the business. Wolves and foxes are still comparatively plentiful, so that a shepherd must always be in attendance on the flock, otherwise heavy loss might occur at any moment. One man can easily attend to from 1,500 to 2,000 sheep, and for his use he generally has a pony and one or more dogs. The deerhound has been found particularly useful for killing prairie wolves, and besides the usual collie, many flockmasters are now providing their shepherds with a deerhound. The collie is of very little use for catching the wolves, although when caught it readily manages to kill them; so that to attend a flock properly both dogs are almost necessary.*

During the day the shepherd keeps slowly moving his flock towards the best pieces of pasture, never omitting to provide them with water at every suitable opportunity. If such cannot be procured naturally from springs, streams, or lakes, then wells must be sunk. In summer time the shepherd carries a tent and supply of food with him, and at night he gathers the flock around his tent, where they lie down and rest. The dogs being always about, the wolves and foxes appear to detect their presence, either by smell or otherwise, and very seldom make an attack, and if they do, they are almost sure to be killed. In winter the sheep are kept during the night in specially-constructed houses, and, unless during very severe weather, they are turned out every day on to a portion of land near the sheep-houses which has purposely been left rough for winter use. The grass of these regions is much more valuable as food during winter than similar grass with us, because in the North-West the blades of grass are, practically speaking, killed by drought in early autumn, just when they are at their best. The consequence is, that these blades contain their full proportion of nutriment, through being stopped in their growth just before reaching maturity; and as little rain falls during autumn, the soluble food ingredients are not washed out of this naturally made hay, as would be the case in Britain.

* The most useful dog for killing the wolves is a cross between the deerhound dog and greyhound bitch, and the great value these animals are can readily be estimated when I state that I have heard of single dogs killing eight wolves in one day, and nearly 100 in one year.

In fact, if the reports of those resident in these districts are to be believed—and, judging from the many sources from which I heard them, I am inclined to do so—it appears that these prairie grasses are almost as valuable for feeding in winter as in summer. In these districts the snow is so dry that it does not deteriorate the grass under it to any appreciable extent.

The sheep-houses are built with turf sides, and of a size corresponding to the flock kept. The roof is composed of poles laid flat on main beams supported by uprights, the whole being covered with a deep layer of straw or hay. Owing to the absence of rain in winter and the dry nature of the snow, no wet ever comes through the flat roof. The height of the roof should only be enough to permit of easily cleaning out the house, and the more effectually to do this, a roadway should be made through the middle of it. During severe weather the flock is kept in the house all day, and hay, which should be stored near at hand, is supplied to them as required.

In the North-West there is no trouble with the ordinary sheep diseases of the old country, maggot, foot-rot, scab, &c., being quite unknown. There are some districts, however, where many persons assert that sheep will not live at all, owing to a sharp, wiry grass called spear-grass, the blades of which penetrate through the wool and into the flesh, ultimately killing the animal. From inquiries made regarding this matter at many of the largest and most intelligent flock-masters, it appears to me that the losses from this cause have been grossly exaggerated. As far as my inquiries went, the greatest complaints were made against it, and those appeared to know most about its bad effects, who neither now nor at any past time had ever kept any sheep, while flock-masters generally had very little to say about it.

The sharp-pointed blades of this grass appear to enter the body oftenest at or near the brisket or other uncovered part of the body coming in contact with the ground in lying down. After the hard, sharp points have pierced the flesh they get broken short off at or inside the skin, and, like the point of a needle inside the body of a human being, the spear-grass may travel anywhere after having fairly entered the flesh and been broken off. Flock-masters everywhere, however, say that even where spear-grass is fairly plentiful the losses are very few indeed—so few, some of them said, that it caused them much less trouble than foot-rot, scab, or any of the other ordinary sheep diseases cause the average sheep farmer in Britain.

Haymaking.—In Quebec, Ontario, and British Columbia haymaking is conducted very much as in Britain, only, owing to the brighter sunshine and more steady weather, it is more easily and better done. In these provinces the principal hay crop is clover and timothy, and both do remarkably well. The timothy keeps good for several years, but the clover rarely produces much after the second year. In the North-West all hay is cut from the sloughs (damp places) on the prairie, and a portion of such land is a valuable addition to any farm, even a wheat one. In many emigration pamphlets it is asserted that the farmer has only to go to the prairie to get as much hay as he requires. Such, however, is not the case, as in many localities hay lands are the scarcest of any, and

often farmers, even in sparsely-settled districts, told me that they had cut their hay five and seven miles away. During the haymaking season it is a common practice for the farmer and his men to take a tent with them and remain away all the week. During the drying little handling is required other than the gathering and hauling to the stack. The stacks are never thatched, and the bulk of the crop is stacked where cut and hauled home on sleighs during winter.

Silage.—Owing to the cost of labour and the hot summer temperature, turnips are never likely to succeed so well in Canada as here. It has been found in Ontario, however, that more food can be grown on an acre of land seeded with Indian corn and cut green than by turnips, and the introduction of the silo bids fair to put green maize in much the same position in Canada as the turnip is in Britain. In Ontario maize grows well, it is easy of cultivation, keeps the weeds in check in a way no other crop does, and produces a weight per acre of green food that is not excelled in quantity or quality by any other plant for stock-feeding. This, when cut green and chopped into short lengths of from half to three-quarters of an inch, and put into the silo, is easily preserved for consumption during the winter, and in the future should add greatly to the milk and meat producing power of the country.

Markets.—In the older provinces the facilities for disposing of farm produce are ample and sufficient, while in the newer territories they are keeping pace with the requirements of the country. Wherever grain is produced in anything like large quantities, some one is always ready to erect an elevator for the storage of grain at the nearest railway station. Wheat is graded into four qualities—Manitoba Nos. 1 and 2 hard, and Northern Nos. 1 and 2—and commands a fixed price for each quality at every elevator, the prices being that current at the ship-side, minus the cost of transit thither. When a farmer has grain to sell, he has the option of three methods of disposing of it. He may sell it direct to the nearest elevator owner or miller, he may store it in the elevator, or he may send it by rail to some distant elevator owner or miller. On arriving at the elevator, his sacks are emptied into a large hopper fixed on a balance, and when full the whole is weighed, after which a sluice in the bottom of the hopper is opened, and the grain runs out into a set of elevating belts, which convey it to the bin to which the particular wheat belongs, or, if dirty, to the cleaning machinery. The weighing hoppers may be any size, but they are generally made to hold about 70 bushels. If the grain is to be stored, or is sold to the elevator owner, and is so dirty that it requires cleaning, a small percentage—generally 2 to 5 per cent.—is deducted from the gross weight. The elevator owners are always ready to pay cash for wheat, but if the farmer desires to store it, the elevator owner does so, and cleans it, at a charge of five-eighths of a penny per bushel for the first 15 days, and one farthing per bushel for every 15 days thereafter, until 2d. per bushel is reached, after which nothing more is charged until May. Any one storing wheat in an elevator does not get his own wheat out again, but an equal quantity of the same grade as he put in. The elevators generally have an elevating and cleaning capacity of 1,000 bushels per hour, but they are seldom worked over 500 or 600 bushels per hour.

Railways.—In Canada the influences which dictate the construction of railways are quite the reverse of what they are in Britain. In the latter they are only constructed after a payable amount of traffic is supposed to exist, whereas in the former they are made first in order to increase the value of the land and create traffic. The rates charged for passengers and freight are fairly moderate, the passenger cars being eminently suited for easily and conveniently travelling long distances. Most of the railways are single lines, but all are well laid, and supplied with heavy engines and two classes of carriages.

Bartering and Prices.—In new districts, where the small articles of the farm are sold to the nearest store, it is the common practice for the farmer to take groceries in return, and as many of these store-keepers act as collectors of eggs and butter, on which they say they can make little profit, they refuse to buy unless an equivalent is taken in what they have to sell; the consequence is, that most farmers receive little actual money for these articles, the balance only being paid, by either person, at each yearly or half-yearly settlement.

The price of wheat in Britain may be said to regulate the price of wheat all over Canada, as its value there is just its price here, minus cost of freight and commissions. This year the best wheat was realising about 3s. per bushel all over Manitoba. In Winnipeg, butter has been selling at 10d. to 11d. per lb., and eggs at from 3½d. to 7d. per dozen. Cabbages cost from 1½d. to 4d., according to size and season; and other vegetables are all also equally dear, a hand-bunch of green onions often costing from 4d. to 5d. Farther back in Manitoba, I found butter selling at from 5d. to 6d. per lb. in summer, and 7d. in winter. In Victoria and Vancouver, both butter and eggs are always dear; butter ranging from 1s. 8d. to 2s. per lb., and a dozen of eggs about the same price. A small butter factory at Saltcoats I found sending all their make to Vancouver, a distance of about 1,500 miles; while a farmer in the Okanagan Valley, up in the Rocky Mountains, told me he sent all his butter and eggs to the same place, a distance of about 400 miles. Mutton is everywhere proportionately dearer than beef, and so is pork. Good cows generally sell all over the Dominion at from £5 to £9; and two and a half year old bullocks at from £5 to £6; and ordinary horses at £10 to £20. For the service of a mare with a stallion of moderate worth, the cost is from £2 to £3, the whole being paid at foaling time and none at service. Apples being scarce this year in many districts of Ontario, prices were in consequence much higher than usual, the average price running from 10s. to 15s. per barrel, according to variety and season. Clothing is slightly dearer than in Britain, but, as far as I could judge, not over 20 or 25 per cent. more than here.

Wages.—These vary very much according to the district, occupation, and season. In Ontario unmarried farm servants, boarded in the farmhouse, get from £32 to £40 per annum, and if engaged for the winter months only, the wage is about £2 10s. per month; while during hay and harvest time the usual wage is £5 per month. Married men receive about £20 to £25 extra per annum. Special men, having a knowledge of horses, cattle, or sheep, get extra wages. General labourers get about 30s. per week, while some classes of tradesmen get

£3 per week. In Ontario the average working man spends much more on house rent than is done by the same class in Britain. In the old country it is generally estimated that most men spend about one-tenth of their total earnings in house rent, but in Ontario it is calculated that between one-fifth and one-sixth is so spent.

In Manitoba and the North-West Territories the ordinary labourer's wage varies according to locality and season even more than in Ontario. It may, however, be said to run from 6s. to 10s. per day; and as showing how scarce labour is there during the busy season, I may mention I found a farmer in Brandon, which is not far west, offering 21s. per day to all who would work for him during the stacking period. Ordinary farm servants told me in this district they could keep themselves and small families and save from £30 to £35 a year besides. At railway work all over Manitoba the companies were paying from 7s. to 10s. per day; while on the new portion of the Manitoba and North-Western Railway that company were paying this autumn 9s. 6d. to 10s. 6d. per day to the Highland crofters after they had got their harvest in.

In British Columbia wages are fully higher than anywhere else in Canada, and masons at the time of my visit were getting as high as 21s. per day. Miners at Lethbridge, in Assiniboia, were getting 8s. to 12s. per day; while at Nanaimo, on Vancouver Island, they were getting 10s. to 13s. per day. Female domestic servants are in great demand everywhere. In Ontario the average wage may be said to run from 25s. to 50s. per month, according to ability and trustworthiness. In the North-West they are very much higher, £3 to £4 per month being not uncommon wages for experienced housemaids and cooks. In Vancouver and Victoria domestic servants are particularly scarce, and if experienced and trustworthy can command almost their own terms.

It may also be mentioned that west of Winnipeg no smaller coin than the 5-cent piece (2½d.) is used, and at quite a recent date the smallest in circulation was the 10-cent piece (5d.); and at the introduction of the 5-cent piece there was considerable dissatisfaction among a section of the population.

Loans.—Extra facilities are given all over Canada for effecting loans, not only on land, but on stock and implements, so that where these are judiciously used they can often be turned to great advantage by the steady and industrious man who has little capital. All mortgages have to be registered, and for a small sum any one loaning money can find whether or not any other mortgages are on the property. Ordinary debts, or even promissory notes, have no claim against a farmer's homestead, and no matter what is seized for debt, a plough, harrow, seeder, binder, mower, and team of horses with their harness must be left. The ordinary legal interest over a great part of the North-West is eight per cent., but ten per cent. and over is quite common for ordinary loans. The facilities given for mortgaging all kinds of property in Canada are so great, that I question very much if they have not done more harm than good; at any rate, it is an undoubted fact that Canadian farmers of all classes contract debt very readily, and there, as elsewhere, debts are always more easily incurred than got

rid of. My idea is that the Government should discourage mortgages, rather than encourage them, if a happy and contented rural population is to be maintained.

Water.—Over all Quebec and Ontario, water in wells, springs, or rivers is quite plentiful, but it has been asserted that, owing to the limited rain and snowfall of Manitoba and the North-West, there water was very difficult to get. Undoubtedly, very little water runs off the land by streams or rivers, the soil and the air absorbing the greater portion of it; but, although springs are anything but plentiful, and the water in many of the lakes is unsuitable for dietetic purposes, still it is very exceptional to find a district (if such at all exists) where water cannot be found by well-sinking at a moderate depth. All over the prairies it is usually found between 15 feet and 50 feet deep, but there are odd cases where double that distance has had to be sunk before water was obtained. Owing to the subsoil of the greater part of the prairie lands being deep clay, it is not to be wondered at that water is sometimes difficult to find, but through the clay are scattered thin beds of gravel at different depths, and where it so happens that a well is sunk without coming in contact with one of these, little or no water is ever found. I have known a farmer sink three wells, all 40 feet deep, around his house, and still find no water, yet, in the fourth one at no great distance, he found a plentiful supply at 15 feet deep. In another instance, a farmer sank 70 feet without finding any water, after which he put down a seven-inch bore to 127 feet, when the water rose and filled the well to within five feet of the surface.

— In both these cases no water was got until beds of sand or gravel were struck, and although there may be isolated instances in which slight difficulty has been experienced in getting water, still such appear to be comparatively rare as far as my observations went, and I made special inquiry at almost every farmer on whom I called with reference to this matter.

In every district of British Columbia to which my inquiries extended, water was everywhere plentiful and good. Victoria and Vancouver are both supplied with a never-failing supply from small lakes quite close at hand, and at a considerable elevation above both cities.

Fuel.—In the older provinces of Canada both coal and wood are fairly plentiful and moderate in price, the St. Lawrence and lakes allowing of water carriage at a very low rate. In the North-West, however, wood is very scarce in some districts, and, of course, is more costly. For instance, in Portage-la-Prairie, which may be taken as a fair instance of the other districts, a cord of wood was selling during the past year at 33s. for poplar, and 46s. to 50s. for oak. A cord of wood is a quantity 8 feet long, 4 feet deep, and 4 feet thick. The trees are cut into 4-foot lengths, and, if necessary, split into pieces from 4 to 6 inches in diameter. In measuring the cord two stakes are driven into the ground 2 feet apart and 4 feet high, then other two are driven in 8 feet from the first ones, and the wood as split is piled in between the first and second pair of stakes, until the space between them is filled

up to the top. Along most of the river banks and elsewhere, enough wood to supply present demands is to be found, but as the country settles up it will become scarcer. Happily, however, coal mines are being opened in the south of Manitoba which will supply the whole of that province at a moderate charge. In the south-east of Alberta the Lethbridge mines, belonging to the Alberta Coal and Railway Company, are in full working order, and are connected with the main Canadian Pacific Railway by a branch line. This coal is of excellent quality, and will be quite sufficient for the supply of the whole North-West for many years to come. Near the base of the Rockies several good beds of coal crop out in various places, some of which are already being worked in a small way, while others are in contemplation. In British Columbia there is sufficient wood to serve for fuel for generations, and at Nanaimo there are eight or nine shafts worked by three companies, where several thousand tons of excellent coal are put out daily. This coal is sold at 12s. 6d. to 13s. per ton at the pits, and is used principally for ocean steamers, the Canadian Pacific Railway, and the San Francisco market.

Schools, Churches, and Taxes.—In the prairie districts in each township there are two sections, Nos. 11 and 29, which are called school sections. These are sold as soon as the district becomes fairly settled up, and the proceeds go to a general fund for educational purposes. In some districts where the population is very thin, and the up-keep of the schools is proportionately heavy, a small extra charge has to be made for their maintenance, but in most localities education is to all intents and purposes free. Wherever 8 or 10 children of school age can be found, a school is erected, and from visits made to several of these prairie schools, and also various ones in the cities, I can testify to the sufficiency of the accommodation and excellence of the education which was being imparted in even very remote districts.

In Canada there are no tithes and no State Church, unless in the Province of Quebec, where the Roman Catholics alone pay tithes, all others being exempted, yet churches are very plentiful and well attended, each worshipping according to the dictates of his or her own conscience. In even the sparsely-peopled districts of the North-West several churches are found in every small town, Ontario alone last year sending to their assistance £10,000. Presbyterians and Methodists appear to be in greatest numbers, Episcopalians and Roman Catholics coming next.

The direct taxes of Canada are very light, enough being derived largely from the duty levied on imported goods, to keep up the Government, the cost of which is comparatively light, seeing no standing army and navy have to be provided for. Each township appoints its own road managers and levies its own road rate, so that if the roads are not in good condition, the public have themselves to blame. The total direct taxation of Canada during the past ten years has averaged 23s. per head of the population.

People.—The Province of Quebec is peopled principally by French Canadians, three-fourths, if not more, of the whole population being

of French extraction, speaking the French language, and belonging to the Roman Catholic Church. The remainder is principally composed of British.

In Ontario the bulk of the people are of British extraction, the other nationalities being very small indeed, while a very great number of the names of men and places are familiar old country ones.

In Manitoba and the North-West, several of the newer settlements have drawn almost half of their population from Ontario, the remainder being made up of English, Scotch, Irish, Scandinavians, French Canadians, &c. Around Winnipeg, on the east side of the Red River, the French Canadians have a very large colony, and in other parts of the province there are thriving settlements almost entirely composed of them. The British and Canadians are, of course, so much in the majority that they can scarcely be said to form colonies, unless in the case of the Highland crofters, who are all settled in bodies by themselves, and many of whom cannot yet speak any English. The Scandinavians, who make very good settlers, are often in districts by themselves also, but in my opinion it is a decided mistake to give facilities for any nationality to crowd into one locality. At first it may be a little more pleasant for the immigrants, but in the end it will ultimately be for their own and for the State's benefit that all be mixed up as much as possible, and all other nationalities submerged under that of Canada.

DEFECTS OF THE COUNTRY.

Drought.—Owing to the more abundant rainfall of Quebec, Ontario, and British Columbia, these provinces rarely suffer from drought; and while in Manitoba the rainfall is fairly copious and regular, in Assiniboia the want of rain is probably the greatest drawback the country has. Drying winds also occasionally come on in June, which sometimes scorch crops badly, and to such an extent as occasionally to kill them back to the ground level. When the winds cease and rain comes on they again grow, and in the autumn may be cut green for feed, but as a rule are no use for grain. Whether or not the climate will improve in this respect as settlement proceeds and trees are planted remains to be seen; a general impression appears, however, to pervade the people that it will, but whether or not such is well founded is very difficult to say.

For 15 years the rainfall of Manitoba has averaged about 16 inches, and below are given the rainfalls of Regina, Medicine Hat, and Calgary for the following years:—

		Regina.		Medicine Hat.		Calgary.
1887	=	19·20	...	9·89	...	19·32
1888	=	16·23	...	11·40	...	17·51
1889	=	4·15	...	8·64	...	11·09
1890	=	9·60	...	12 12	...	17·04

The rainfall of all three places in 1890 is calculated from the returns of the first seven months only, and as the harvest and autumn of the past year was much wetter than usual, the figures given are sure to be much under what actually fell.

Hail.—Isolated districts here and there are every now and again visited by summer hail-storms, which sometimes quite ruin the crops in the districts visited by cutting them down to the ground. Fortunately, however, these storms move in very narrow tracks, and the damage done is usually confined to a very small percentage of the area of the whole country.

Autumn Frosts.—About the time the grain of the wheat is in the milky stage, it is very susceptible to frost, and as such occasionally comes on then, it often materially deteriorates it. I have found great difficulty in arriving at the exact facts with regard to these frosts, and although I found many crops damaged by them, none were destroyed. Farmers who had been in the country for twenty-eight years told me they had only once or twice had any frozen wheat, while others who had only been there a few years said they had some every two or three seasons. Prosecuting my inquiries further, and comparing the opinions of all after I had heard everyone's story, it appeared to me that those whom I had noted as being the best farmers had little dread of or had never lost much by August frosts, while the inexperienced and slovenly farmers were losing every now and again. The safeguards to adopt appear to be early ploughing and seeding, the use of early ripening varieties of grain—more particularly for the last sowings—and more mixed farming, so as to decrease the area sown, and increase the amount of labour available for it. The farming population is composed of such an immense number of persons inexperienced in the business of farming, that it is not to be wondered at that they commit frequent mistakes; for farming, to be profitable, must be learned in the North-West as well as anywhere else, although it is usually said anyone can be a farmer there.

Smudge fires (smoke fires), made by setting damp straw on fire, have also been successfully used by many farmers, and one of the most extensive and oldest settlers in Manitoba said to me he would have no fear in keeping frost off plots one mile square, if not more, by simply emptying cartloads of straw on the north and east sides along the road allowances, and setting fire to such when frost seemed likely to come on. Most settlers say they know quite well when the crops are about to be hurt, as on these nights any little wind which blows, comes from the north or east, and is usually attended with more or less fog. Those who have been successful in keeping off frost by this means, say that the smoke is gradually driven by the little wind which prevails over the crop, where the bulk of it lies during the night, effectually preventing any damage. As a rule, it appears to be only one night in a season, or in several seasons, that any damage is done, and if such an area of crop as a square mile, or less, can be saved from damage by so simple an expedient, and at so little expense, it is a great pity it is not oftener adopted. In the wheat-growing districts straw is of so little value that it is always burned; it might, therefore, at threshing time or other convenient seasons, be hauled where necessary, and let lie there till such times as it was wanted, as the rainfall is so little that it does not rot.

From information derived from several millers of undoubted

experience and respectability, I am informed that wheat damaged by frost is generally sold under its intrinsic value for flour-making, dealers often making such a reason for buying it at a low price.

In 1886, in order to test the value of the practice of farmers using frozen wheat as seed, the manager of the Ontario Experimental Farm had 12 samples of frozen grain forwarded to him from Manitoba, which he tested in the germinator and in the field, with the following results:—

No. 1,	at the end of eight days,	showed 48 per cent. growth.
" 2	" "	58 " "
" 3	" "	72 " "
" 4	" "	30 " "
" 5	" "	50 " "
" 6	" "	72 " "
" 7	" "	58 " "
" 8	" "	66 " "
" 9	" "	52 " "
" 10	" "	42 " "
" 11	" "	52 " "
" 12	" "	60 " "
Average	" "	55 " "

The following note is also appended:—

Frozen wheat is not reliable for seed, even though germinating a fair per cent., as its growth in the field is of a more or less weakly nature.

Absence of Shelter.—The bare and naked appearance of the open prairies of Manitoba and the North-West Territories is dreary in the extreme, and very depressing on the spirits of any one accustomed to, and knowing the value of timber belts. There is not the least doubt that were the country planted with narrow belts of timber, running across the course of the prevailing winds, in short lengths, and at first at wide distances apart along the main lines of railway, many would be taken up with it who now turn away disappointed. There are difficulties, even very great difficulties, in the way, against carrying out such a proposal, but opportunities are now offered for doing such systematically, which may never be obtained after the country becomes more thoroughly settled. The gains from such would likely be a greatly improved appearance, a milder climate, and increased rainfall, fuel, fencing supply, and larger immigration. More particularly for the first plantations and for the outsidcs, very great care would require to be exercised in the selection of suitable trees to stand the climate, for which the experience gained at the Dominion Government Experimental Farms at Brandon and at Indian Head would be very valuable.

Locusts and Mosquitoes.—Occasionally very slight damage is done by locusts, but it is now so small as to be scarcely worth taking notice of. In all insect attacks the knowledge of the life history of the pest is almost equivalent to half the cure, and as the life of the locust is fairly well understood, and as settlement progresses, it is confidently hoped that they will be unlikely to again cause any material damage.

Mosquitoes cannot be got rid of so easily, and although they do not cause much direct loss, still they give very considerable annoyance. On new comers they are said to be particularly severe, yet none of the people I came in contact with had any very serious complaints to make regarding them. To cattle they are also very troublesome, more particularly on farms in the vicinity of ponds or marshes, as it is in such places that the mosquitoes breed. In these localities it is customary to have a railed-in enclosure, with a fenced-in smudge fire in the centre, into which the cattle are driven, particularly the cows in milk. This fire is fed with any damp material, which will burn slowly and cause smoke, which is very distasteful to the mosquitoes, and into which the cattle rush to get clear of their tormentors.

Long Winters.—The long winters of Canada are certainly an objection to it by people who have been used to a short one; but it is wonderful how soon anyone can accommodate himself to the changed circumstances. As the country also gets better settled up, people will drift into ways of life and occupations which are likely to fully occupy their time. Every country has some drawback; one, like Scotland, is too wet, another is too dry, a third too hot, and so on, so that were it not for these little defects, the climate of Canada would be perfection. In winter all the work of preparing fuel and fencing is done.

Wild Animals.—Over all the North-West prairie wolves and foxes are yet fairly plentiful, but unless for their attacks on sheep these animals cause settlers no trouble, as the wolves never attack human beings.

In the grain-growing districts not a little loss is often caused by gophers destroying the crops, but, as a rule, they do not do much damage, and are not difficult to get rid of. The gopher is a small animal, very much resembling the squirrel, and which inhabits the whole of the prairies of the North-West. It burrows in the ground, its channels very much resembling rat-holes. They feed principally on grain when they can get it; and where plentiful—and they sometimes are very plentiful—they cause considerable destruction. The badgers are their natural enemies; and on the open prairies they keep them down to their normal level, but in the grain-fields they sometimes increase, when they should be thinned by traps and poison. As yet there are no rats in Manitoba and the North-West; they are, however, always creeping further and further westward.

WHO SHOULD GO TO CANADA.

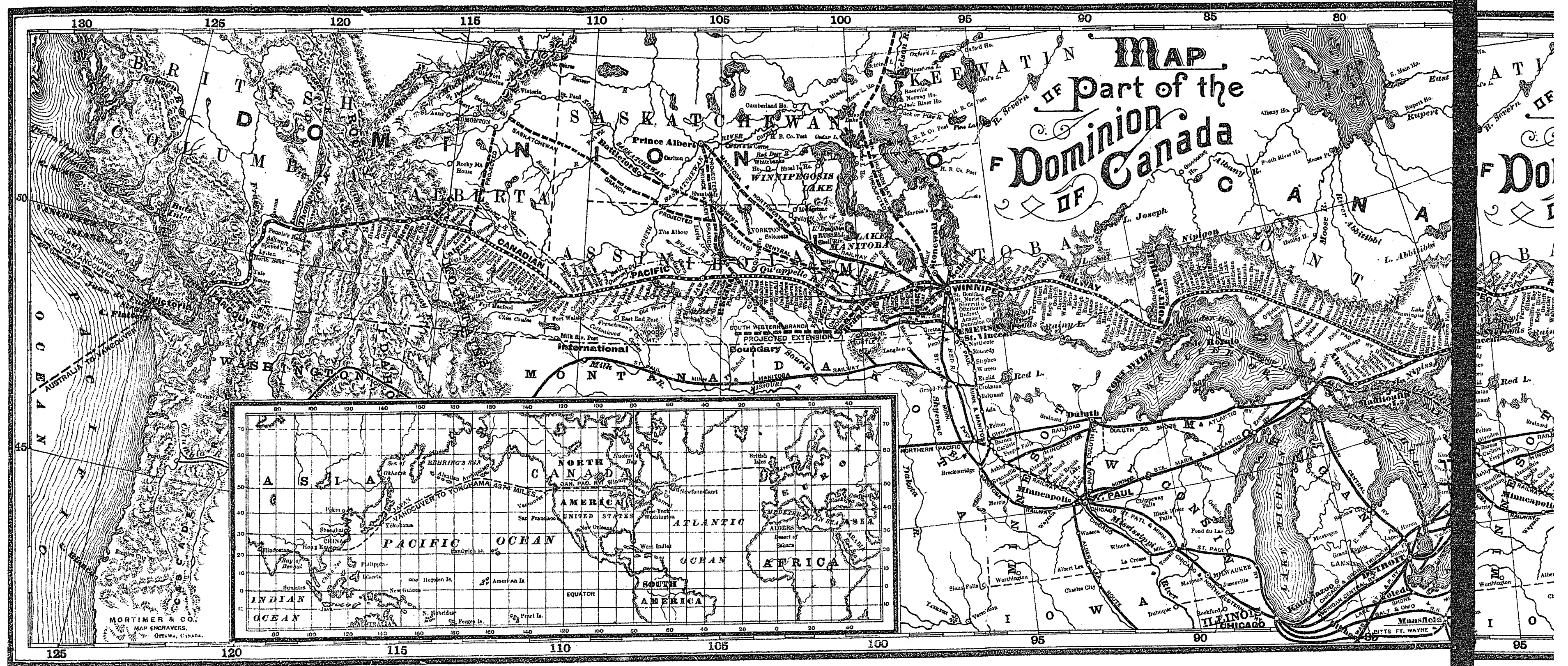
The class of persons principally wanted in Canada are farmers of all classes, farm servants, domestic servants, and a few artisans; all others are for the present unlikely to be any more successful there than here. Farmers who are up in years should not go for their own benefit, but it is desirable that they should do so for that of their families, if they have any. If they are possessed of fair means and are unwilling to face the hardships of starting a farm on the prairies, they may purchase farms in full going order in any part of Ontario or the Maritime Provinces, and at once begin business. If they have some

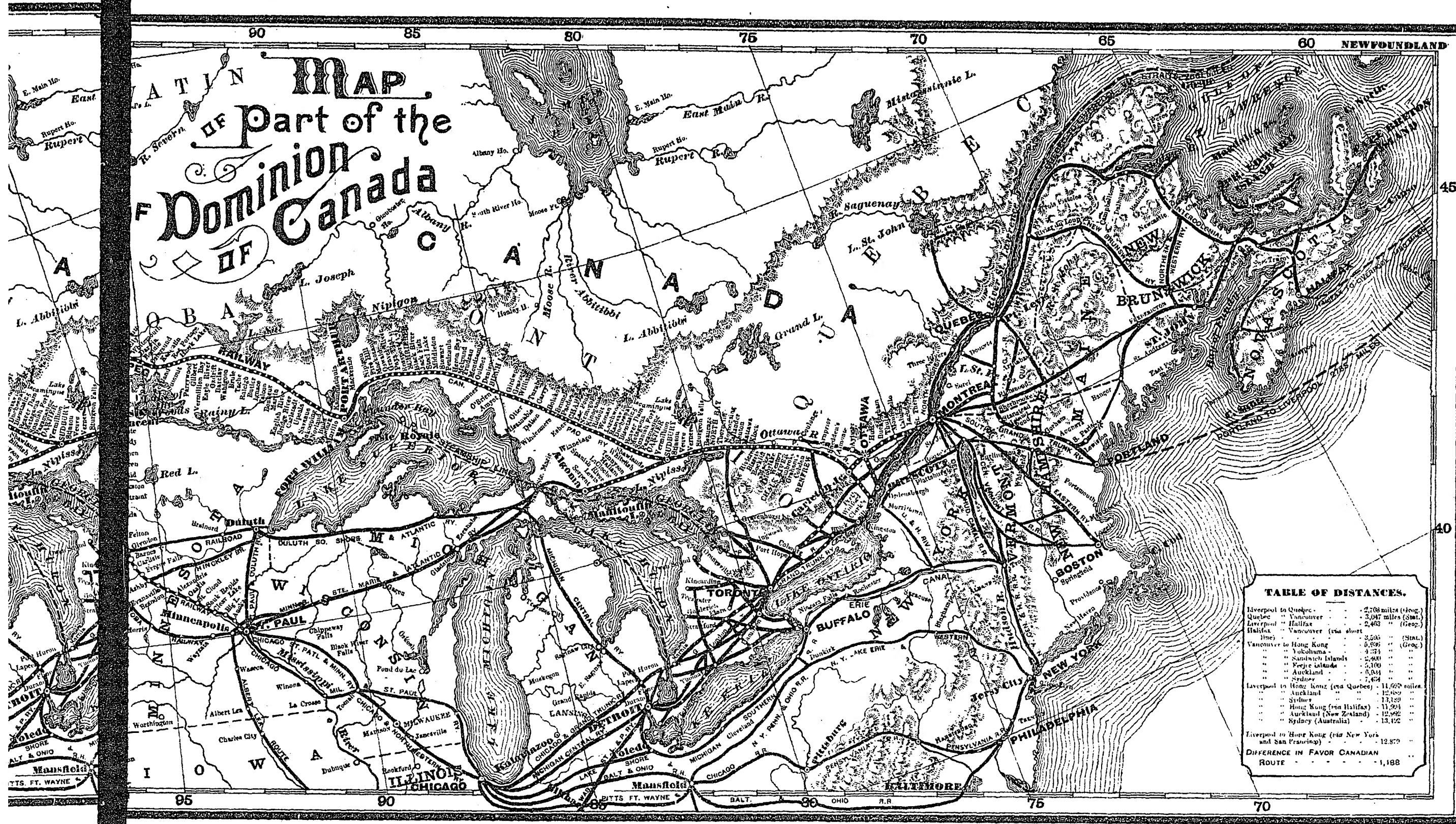
money and would prefer Manitoba or any of the country west, they may either purchase improved farms, buy unbroken lands, or go further back and take up a free homestead, according to their inclinations and means. The men likely to be most successful are those who have been in occupation of the smaller class of farms at home, and who, between themselves and their families, can do a good proportion of their own work, for labour is so costly that if much of it has to be hired a considerable part of the profit is run away with.

Farmers with a few hundred pounds can make a very easy start as owners in any part of the North-West, on a farm four or five times the size of what they would be able to find capital for as tenants in the old country, and at the end of a few years they may have it in good working order and free of debt. Farm servants with a few pounds by them—more than will take themselves and their families out and keep them for from six months to a year—can also do very well, and all such, by frugality and perseverance, may very soon immensely improve their position. All who are able to pay for good lands near a railway, I would advise to do so, rather than go farther back and get it free. The farmer with a considerable sum of money at his disposal may enter into a large wheat-growing or mixed farm in Manitoba or the Territories, or go into cattle, horse, or sheep breeding in Alberta, if that is more to his tastes; or, if he prefers a milder winter, he may go on to British Columbia, where he may engage in general farming, stock-raising, dairying, or fruit culture, as suits his tastes and experience. Canada is so large and so varied in character, that there is almost no one in the farming way who is desirous of emigrating but will find some place suited to his tastes and experience.

CONCLUSION.

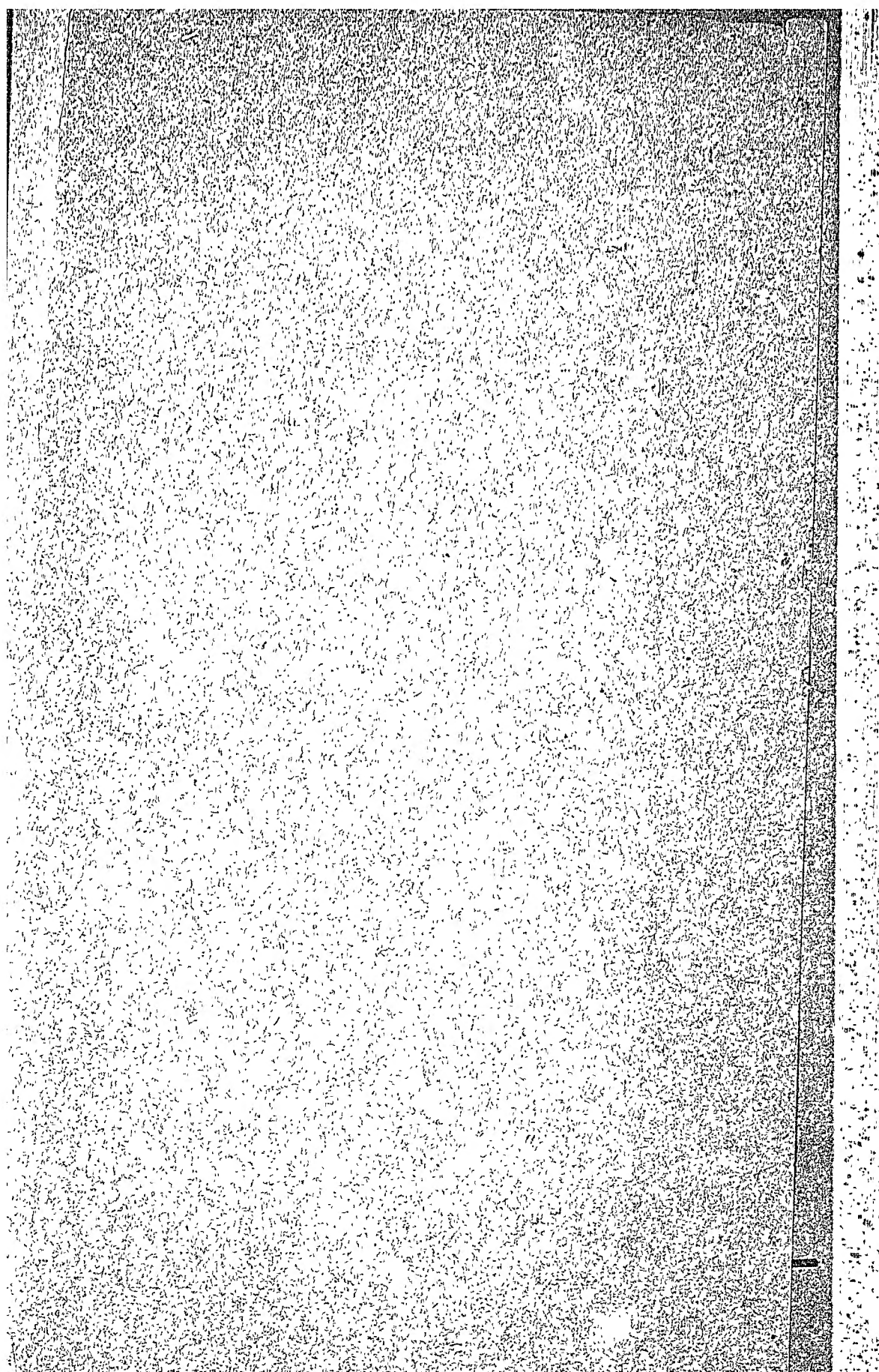
My examination of Canada forces me to the conclusion that very many of our farmers, more particularly the smaller class of them who are used to cattle, would do very much better in the North-West than at home; and to all who are not getting on here to their entire satisfaction I have no hesitation in saying that, if they mean shifting, they should try Canada. If they are quite contented and satisfied, I would say, "Stay where you are;" but in all other circumstances try Canada. When you go, do so in early spring, and go prepared to work or travel about for at least one year, until you see the country and get accustomed to its ways. Such a course will in the end be much more profitable and pleasant than coming out and buying or taking free land, and beginning farming right off. The latter can be done, but it is neither judicious nor advisable to do so.





MAP OF Part of the Dominion of Canada

TABLE OF DISTANCES.	
Liverpool to Quebec	2,700 miles (long.)
Quebec to Vancouver	2,047 miles (long.)
Vancouver to Halifax	2,403 " (long.)
Halifax to Vancouver (via short)	2,505 " (short.)
Vancouver to Hong Kong	6,696 " (long.)
" to Yokohama	4,371 " "
" to San Francisco	2,940 " "
" to Peking	5,100 " "
" to Auckland	6,041 " "
" to Sydney	7,464 " "
Liverpool to Hong Kong (via Quebec)	11,600 miles
" to Auckland	12,400 " "
" to Sydney	13,129 " "
" to Hong Kong (via Halifax)	11,901 " "
" to Auckland (via New Zealand)	12,992 " "
" to Sydney (Australia)	13,192 " "
Liverpool to Hong Kong (via New York and San Francisco)	12,879 " "
DIFFERENCE IN FAVOR CANADIAN ROUTE	
	1,188



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